

PERIODICAL ROOM
GENERAL LIBRARY
UNIV. OF MICH.

MSS. and other Communications for the Editor should be addressed to
Prof. G. E. MOORE, 86 Chesterton Road, Cambridge.

VOL. XLI. No. 164.

OCTOBER, 1932.

M I N D
A QUARTERLY REVIEW
OF
PSYCHOLOGY AND PHILOSOPHY.
EDITED BY

PROF. G. E. MOORE.

WITH THE CO-OPERATION OF PROF. F. C. BARTLETT AND C. D. BROAD, LITT.D.

CONTENTS.

	PAGE
I.—Probability: The Deductive and Inductive Problems: W. E. JOHNSON	409
II.—A Defence of Freethinking in Logistics: H. W. B. JOSEPH	424
III.—Logical Constructions (III.): JOHN WISDOM	441
IV.—A Catalogue of Berkeley's Library: R. J. AARON	465
V.—Discussions:— On the Subject-Object Relation: C. A. STRONG	476
Formalism Again: F. C. S. SCHILLER	481
Formalism—A Rejoinder: C. A. MACE	483
VI.—Critical Notices:— Henri Bergson: <i>Les deux Sources de la Morale et de la Religion</i> : P. LEON	485
W. M. Marston, C. D. King and E. H. Marston: <i>Integrative Psychology</i> : W. J. H. SPROTT	495
G. R. G. Mure: <i>Aristotle</i> : A. E. TAYLOR	501
S. Radhakrishnan: <i>An Idealist View of Life</i> : J. S. MAC- KENZIE	505
VII.—New Books.	513
VIII.—Philosophical Periodicals	540
IX.—Notes.	544

PUBLISHED FOR THE MIND ASSOCIATION BY
MACMILLAN & CO., LIMITED,
ST. MARTIN'S STREET, LONDON, W.C. 2.

NEW YORK: THE MACMILLAN COMPANY.

Price Four Shillings and Sixpence. ————— All Rights Reserved.

Yearly Subscribers will receive MIND post free from the Publishers
on payment (in advance) of Sixteen Shillings.

Entered as Second Class Matter, March 15, 1929, at the Post Office at Boston, Mass., under the
Act of March 3, 1879 (Sec. 397, P. L. & R.).

CAMBRIDGE UNIVERSITY PRESS

FLUCTUATIONS IN HUMAN OUTPUT

By S. J. F. PHILPOTT

Royal 8vo. 12s. 6d. net

The seventeenth Monograph Supplement to the *British Journal of Psychology*

No one can "attend" continuously to a task; with the best of intentions output fluctuates; it is the problems of these fluctuations or oscillations in uninterrupted mental work which are here discussed.

SIX THEORIES OF THE MIND

By CHARLES W. MORRIS

Crown 8vo. 22s. net

(University of Chicago Press)

A comparison and evaluation of the major theories of mind which the history of thought reveals: mind as substance, as process, as relation, as intentional act, as substantive, and as function. The volume includes a pragmatic reply to Lovejoy's criticism of objective relativism and the main comments of Cunningham, Laird, Lovejoy, Strong, Russell, and Dewey.

The Philosophical Quarterly

IS THE

PREMIER PHILOSOPHICAL
JOURNAL IN INDIA

BEING AN ORGAN OF

THE INDIAN INSTITUTE OF PHILOSOPHY
AND

THE INDIAN PHILOSOPHICAL CONGRESS

Subscription per annum, 10s.

THE SUBJECT AS FREEDOM

By K. C. BHATTACHARYA. 5s.

"... the book on the whole is a profound and trenchant work, and deserves careful study by Western thinkers."—*Journal of Philosophy*.

A STUDY OF REALITY

By G. R. MALKANI. 3s. 6d.

The Indian Institute of Philosophy

AMALNER, EAST KHANDESH, INDIA

Journals & Periodicals

WE are always ready to buy complete sets of important Journals, English and Foreign, on all subjects, Philosophy, Psychology, Philology, History, Economics, Literary and Scientific Journals.

Just published, free on request.
Catalogue 392. English Literature and First Editions.
Catalogue 393. Standard Sets, Fine Books and Periodicals.
154 pages.

W. Heffer & Sons Ltd.

Cambridge, England

I

T
i
n
d
f
b
o
v
o
w
m
c
e
r
d
t
h
a
m
m
o
f

d
o
f
t
d
p
t
h
e

M I N D

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY

I.—PROBABILITY: THE DEDUCTIVE AND
INDUCTIVE PROBLEMS.

BY W. E. JOHNSON.

THE main controversial questions in probability may be divided into two groups, roughly corresponding to deductive and inductive probable inferences. The deductive problem is to infer frequencies from probabilities; and the inductive to infer probabilities from frequencies. Thus, given the prior probabilities of the single throws of a die, mathematicians have deduced various formulae assigning the frequencies of different sequences or runs or alternations. On the other hand, given the frequencies within a range of examined cases, a definite branch of mathematics has been applied to infer probabilities for unexamined cases based on the recorded statistics of examined cases. The criticism of the actual procedure of mathematicians in these two directions has been partly technical and mathematical, and with this aspect of criticism we are not chiefly concerned. But there are logical questions which throw doubt upon the substructure of much of the remarkable mathematical work, and with this kind of criticism we are intimately concerned.

The above distinction and contrast between the so-called deductive and inductive problems artificially simplifies the nature of the two problems. In fact, my definition would suggest that the inductive problem was merely a sort of inverse of the deductive problem. But this idea is seriously misleading, and is perhaps a source of error in the minds of mathematicians themselves.

Let us then restate the problems: frequencies are not mathematically demonstrated from prior probabilities; on the contrary, we attempt to deduce, from certain probability data, conclusions with regard to proportionate frequencies which are themselves only probable—the degree of probability being the precise question to be answered. Thus, to take the simplest case, we do not infer from the datum that the probability of heads in a single throw is $\frac{1}{2}$, that a half of 100 or 1000 throws will yield heads; on the contrary, we deduce within very broad limits of probability, falling far short of certainty deviations (again within very broad limits) which a series of throws will exhibit from the normal proportion $\frac{1}{2}$. The loose habit of glibly identifying the fraction for frequency with the fraction for prior probability is peculiarly deplorable, and has tended to confirm the error of identifying the probability measure with the measure of proportionate frequency. Thus at the outset the deductive problem must be more precisely defined.

We are calculating the probability that a certain assigned proportion of the alternatively characterised events will occur, on the basis of our knowledge of the prior probability of each alternative. For example, given that for each throw heads and tails are equally likely, then the probability of getting 3 heads and 1 tails in 4 throws is $\frac{4}{16}$, since there are altogether 16 possible combinations, and of these 4 are ways in which 3 heads and 1 tails may occur. Now, it may not have been observed that what we are here deducing as a conclusion is not, strictly speaking, an order of fact called a frequency, to be logically contrasted with the premiss called a probability, but is on the contrary the same kind of thing as that with which we start as a premiss. It is therefore definitely misleading to speak, as I did, of deducing a frequency from a probability. What is really done by the algebraist here, is to deduce the probability of a certain kind of compound proposition from the premised probabilities of constituent propositions. The constituent propositions are the descriptions of the single events; and the compound proposition is a description of a conjunction of these single events. Thus from the premiss that the probability of each of 5 single events giving heads is $\frac{1}{2}$, we deduce that the probability of all those 5

events giving heads is, say, $\frac{1}{2^5}$. The logical criticism of this conclusion will be postponed.

Let us turn now to the so-called inductive problem, which we described as inferring probability from frequency. Here again

this rough account of the problem should be amended as follows : We are really using a recorded frequency amongst examined cases as the supposal, or basis, for estimating the probability that a set of unexamined cases will exhibit some assigned proportion ; and in particular, that they will exhibit a proportion approximately identical with the statistically recorded proportion in the examined cases. Here again the premiss and conclusion are not, properly speaking, in the antithesis that my first account seemed to indicate. Rather the supposal in this problem is statistical frequency for what we will call the past, and the proposal a statistical frequency for the future. Thus here again the proposal and the supposal are of the same nature.

In Mr. Keynes' work these two problems are generally spoken of respectively as the Bernoulli Theorem and its Inverse. This nomenclature I wish to discard, because the introduction of the name of this great mathematician is liable to confuse the logical criticism of the process, which is elementary, with the mathematical criticism of Bernoulli's algebra, which, if it raises questions of logical interest, only does so accidentally. More precisely, Bernoulli's name is associated with the mathematical exponential formula for large numbers. The detailed logical criticism into which we require to enter applies for small values of the number of instances more simply than, and just as adequately as, for large values.

The logical criticism of the mathematical procedure in the deductive problem is two-fold. Doubt is thrown first upon the use of the multiplicative axiom, where we infer that the probability of a and $b = \alpha \times \beta$, these being the probabilities respectively of a and of b . And again, upon the assumption that, say, the probability of the 7th throw being heads is equal to that of the 5th throw being heads ; where the conditions under which these two events occur are disregarded, although they may be causally material.

Of these two objections, the first has been advanced on what may be called epistemic grounds, and the second on causal. Taking the latter objection first, the doubt whether the probability for the 5th occasion is the same as for the 7th would not be relevant if the ordinal determination of these two occasions was merely a matter of accidental dating. For example, to assume that the probabilities relating to the 5th throw of a die are identical with those of the 7th is correct enough, because we are dealing with the same die in the two cases. Or again, in the case of a bag with known proportions of colour, the probabilities for the 5th and the 7th draw are obviously identical.

On the other hand, if the instances corresponding to throws or draws belong to materially different classes—say to lawyers, artisans, musicians, etc.—then, although some one probability-value could be assigned for any case belonging to one or other of these three classes, on the supposal that we were ignorant with regard to the class to which any instance belonged; yet that ignorance, which would yield what may be called an average probability, would be no excuse for attributing such an average to this and to that instance, if we knew the species of the instance in question.

The two cases here distinguished would be paralleled by supposing, corresponding to the first case, that from bags, having known different proportions, we were drawing balls, in ignorance of the composition of the particular bag from which we were drawing. And the second case would be paralleled by supposing specific knowledge in each case of the type of bag. The case in point illustrates some of the subtle confusions in probability that arise from the use of the term 'any'. The probability of red may be correctly estimated as $\frac{1}{2}$ when balls are being drawn from differently constituted bags, in ignorance each time of the bag in question. But this value $\frac{1}{2}$ would be quite falsely applied if we had the further knowledge that the 'any' in one case referred to a ball drawn from a bag constituted in one way, and in another case to a bag differently constituted. In probability questions we must not use the delusive form of the applicative principle—what is true of 'every' is true of 'any'—since what holds of the genus does not hold of the species if we happen to know to which species the individual belongs.

The fundamentally epistemic character of probability is brought out by this case, where the probability to be evaluated differs according to whether we know or do not know which kind of bag is at hand. But with regard to this character, I think we ought to note that unless the knowledge were a knowledge of what may be called causal conditions, it would have no bearing upon the probability in question.

Let us now return to the other ground for comment on the mathematician's method of calculating deductively. If α represents the probability of a certain account to be given by A of a séance, say, and β the probability of some similar or different account to be forthcoming from B, then it is usually argued that the probability of A giving such an account, and of B giving such another account is $\alpha \times \beta$. The mathematician would say that this is correct provided that A and B had not colluded, *i.e.*, communicated with one another. But such simple multipli-

cation is generally wrong, and on epistemic grounds again, apparently. For if we had known the character of A's report, it would have influenced our judgment of probability concerning the nature of B's report. Thus to calculate the probability of A and B, the probability of A should be taken and multiplied *not* by the independent probability of B, but by the modified probability of B as based upon the supposed knowledge of A. For instance, if A and B had witnessed the same event from the same angle, and with the same degree of intelligence and alertness, then our supposed knowledge of the form assumed by A's report would render more probable a similar report from B. Of course if A and B are reporting on different conditions, or rather on events presenting no important resemblance, then the knowledge of A's report might roughly be regarded as having no rational influence on the probability of B's report. So here again, as in our previous type of problem, our estimate of probability is affected by a consideration not merely epistemic, but also causal, inasmuch as knowledge is rationally relevant only when it is knowledge of true causal connection. In the earlier problem we took into consideration the constitution of the bags, this being the essential causal condition. The corresponding causal conditions in the second problem were the characters of the witnesses and of the occurrences witnessed.

Summing up our criticism of the mathematician's procedure, we have found first that it may be wrong to identify the probability of the 5th case with that of the 7th; and secondly that it may be wrong to calculate probabilities with respect to the 5th and 7th case jointly by mere multiplication of the separate probabilities.

Turning now from the deductive to the inductive problem, let us first consider the records of proportionate frequency which constitute the data of our probability estimates. Here the observed cases are known to have in common certain characteristics which determine them as members of a defined class. We will suppose that the several individuals are differentiated one from another by certain further characteristics, logically apprehended as determinates of such determinables as colour, or health, or occupation, or race. The material to be examined, then, is the frequency of the several determinates within an initially known range of alternation. In this connection the term 'proportionate frequency' is conveniently used. Thus, in the simplest case, considering only two alternatives such as red and not-red under a given determinable colour, the ratio of the reds to the not-reds or to the whole—according as this or that is under examination—is what is meant by proportion. But the use

of the term is not restricted to two alternatives, and must be extended to include the compound ratio of the number of p_1 s to the number of p_2 s to the number of p_3 s, etc., for any finite number of alternative determinates. Thus $5:3:11:4$ might represent one proportion, where these 4 numbers corresponded to 4 opposed alternatives.

Starting, then, with a recorded proportionate frequency, there are several logical problems in regard to the use which the statistician or the theorist or scientist may make of such a datum. The special inference referred to above as the inductive problem may now be briefly expressed as an attempt to infer from the recorded proportion in a given number of examined cases, the probability of finding approximately the same proportion in cases not yet examined. But another totally distinct problem may suggest itself to the scientist, namely what kind of inferences could be drawn from this same record, concerning the nature of the causal processes which may account for the observed proportion. A third problem, allied to these and yet distinct, is as to the possibility of dividing the whole of the class observed into subclasses which severally exhibit definite proportions. This last process is not strictly speaking inferential, it is merely a matter of revising our statistics of the cases noted, with a view to discovering some possibly material differentia within the genus which may perhaps subsequently be seen to have a causal connection with the proportionate frequency under consideration.

Now this last problem leads to an initial discussion as to the nature of the material presented to us in a statistical record. At this point I wish to examine Venn's treatment of the problem; and in particular his conception of 'a probability series'. Venn asserts definitely that Nature presents us in some cases with a series of a certain typical kind, constituting what may be called a probability series; while in other cases, such series are not presented; and this distinction is fundamental in his theory of probability. It may be at once contended that any distinction made between collections of recorded data is a preliminary matter raising no dubious problem of logic or causal theory. Let me then repeat his definition of a probability series: it is one which exhibits individual irregularity along with aggregate regularity. Here, to begin with, the word 'series' is obscure. If Venn means simply a set or collection, then the members of a series must of course be understood to have in common some characteristics by which they can be defined as a class; for obviously such a set will not be taken indiscriminately in the literal sense of the term. Thus if we are collecting records of mortality, the class

to which these records refer may be 'Englishmen', or more specifically 'English artisans', or 'English consumptives', or 'Englishmen who have been vaccinated'. It is of importance to consider whether the defining characters of the class are comparatively narrow or wide; this definition or connotation being, of course, a question distinct from that of the number of cases recorded. The statistics about English professionals, for instance, has a narrower range of definition than the statistics about Englishmen, although the number of instances in the two cases may be identical. Having explicitly assigned the defining range of the statistical data, we must next consider in what respects the individuals, constituting the aggregate, differ one from another. If English defines the range, the individuals will differ in very varied ways, according to locality, occupation, education, or even age and health. Now if our record is concerned with a certain character which we suspect to be causally dependent upon some such variation, *e.g.*, health upon locality, then we should reconstruct our statistics, by dividing the wide genus English, into say, species determined by locality.

But the notion of a series, which Venn's theory introduces, cannot I think be simply identified with class or set, and requires for its fuller explication the distinction between epistemic and ontological conceptions. Thus the members of any genus have, in addition to their common characters, a number of other differentiating characters. Amongst these we must distinguish those which are used for individual identification from those which have causal significance in further scientific investigation. For example, the differentia of an individual as being 'the 5th recorded by A' is a purely identifying mark; whereas such a characteristic as having occupied the 5th place in a series of events which are causally bound up with one another, has scientific significance. Now when Venn repeatedly talks of a series as something objective, it seems to me that neither he nor his critics and exponents have noticed the distinctions that would arise according as the 'seriality' of the facts was constituted by the observers' opportunities of noting them, or by causal connections to which their special temporal or spatial arrangement was due.

To take one of Venn's own examples: a man shooting at a target will produce marks on the target, which when completed, will present a certain spatial arrangement to the observer—first increasing and then diminishing in number from the inner to the outer rings. This arrangement, which is in an order of two dimensions, is typical of the kind of series from which we should infer the probability of the shooter's attempts getting nearer

or farther from the bull's eye. On the other hand, if we were informed of the order in which these shots had taken place, an important fact to be taken into account in our estimate would be that his attempts are, roughly speaking, successively more successful, owing to the increased skill acquired by practice. Hence the spatial order pictured on the target is constituted by mere individuating marks, having no causally significant connection. From this point of view the shots may be said to present individual irregularity with aggregate regularity : 2, 6, 8, 10, 7, 4, representing in order the number of shots from the inner to the outer rings. On the other hand, if we substitute for this spatially presented order, the actual temporal order of the shots, Venn's statement would be essentially inapt. For although a certain irregularity would no doubt be found, yet here the temporal order has a precise causal significance, which was lacking in the spatial order.

To pass now from the statistical to the inductive problem, it is assumed that the proportions presented in a certain set of examined cases will be probably maintained in unexamined cases. In spite of attacks levelled against attempts to construct a mathematical formula to measure the probability of this resemblance, there is nevertheless a universal admission that the proportion which happens to have been observed within a range of similar cases is more likely to recur in unexamined cases than any other proportion. Now is it possible to find some ontological foundation for this epistemic principle by which we use our knowledge of frequency in the past to infer, at least with some plausibility, to equal frequency in the future ? I incline to the view that if such inference is to be justified, it must be through the intermediary of a middle term, parallel to the middle term in Aristotle's theory of demonstration, where it functions as the true cause. I suggest that the logical nature of the inference from an observed frequency of the past to the corresponding frequency of the future is not a directly valid inference ; but that a given frequency renders a specific causal hypothesis more probable than other alternative hypotheses ; and that this superposition of causal actuality, in its turn, renders more probable the prospective frequency. Calling c the cause, and f_1, f_2 , the frequencies, I suggest that we do not infer directly that f_1 renders f_2 more probable, but that we argue with the intermediary of c that f_1 renders c more probable, which in its turn renders f_2 more probable.

If this view is sound, the logical account of induction is that the mere conception of invariability in the past cannot justify any

were
e, an
would
more
ctice.
cuted
ciant
d to
2, 6,
the
e for
the
ough
em-
xing
em,
t of
ned
uct
his
the
nge
han
cal
our
me
he
gh
m
he
ce
ng
at
re
po
de
e
rs
c
2
e
7

inference to corresponding invariability in the future, except through the introduction of an assigned form of causality. *E.g.*, when physicists infer, in the kinetic theory of gases, that the average kinetic energy of the molecule in one part of the gas comes to equal the average kinetic energy in another part, they do not infer directly from what holds in one part, *qua* part, to what holds in another part ; but they bring the two parts into a unity by conceiving of a common cause, roughly expressed in the statement that the gas is enclosed in a non-conducting envelope ; and this intermediary gives to their inference a logical basis.

The standard example for this kind of inference is, as usual, the bag of coloured balls. When from a large number of draws which have yielded different colours in a certain proportion, we safely infer that the same proportion will hold for subsequent draws, it is clear that the inference requires an intermediary ; namely that there are certain permanent conditions—such as the make-up of the bag, and the act of drawing—which ensure as effect approximately the same proportion at one time as at another. This artificially simplified problem is obvious ; and it is brought forward merely for the purpose of examining whether something analogous to the constant make-up of a bag could be found to explain, and justify, our general habit of inferring from an observed frequency to a corresponding prospective frequency.

We referred above to a formula by which mathematicians profess to measure with numerical determinateness the probability of any proposed frequency for future events from the observed frequency in known events. This formula, known as the Rule of Succession, has been hastily rejected by Venn, although Pearson, who otherwise adopts Venn's theory, seems to have accepted it. Keynes, in a note in his *Treatise* (p. 28), quotes the rule, erroneously giving the formula that, with n instances

of a suggested uniformity, the probability of the universal is $\frac{n+1}{n+2}$.

The true formula gives this fraction as the measure of the probability that the next instance will be in accordance with the n instances. Thus his hasty attack upon the rule—reducing it to the absurdity that with no experiential basis, the probability of a law is $\frac{1}{2}$ —loses its point ; since he has here confounded the probability for the next instance with the probability for the universal formulation of the law.¹

¹ It is only fair to add that Mr. Keynes states and criticises the true formula in his Chapter XXX.—R. B. B.

But even with this correction, the rule gives results which, as Venn rightly insists, are sufficiently absurd. To say that when a certain character has been observed in one instance, the probability is 2 to 1 that the same character will be observed in the next instance is nonsense, because it rests upon the prior postulate that having never seen a thing of some class, it is as likely to be p as not- p . In my view, this initial postulate requires to be modified by taking as the basis for any reasonable further procedure in probability, the alternatives $p_1, p_2, p_3 \dots$ finite in number, corresponding to discrete determinates under a given determinable, instead of the pair of contradictories p and not- p . From this starting-point, with α alternatives, the probability of each of which, prior to any specific observations, is equal, and therefore $\frac{1}{\alpha}$, I substitute, for the mathematician's use of Gamma Functions and α -multiple integrals, a comparatively simple piece of algebra, and thus deduce a formula similar to the mathematician's, except that, instead of for two, my theorem holds for α alternatives, primarily postulated as equiprobable.¹

My formula differs from that of the mathematicians in making explicit reference to the postulate, and avoiding their confusion between the ideas of probability and of frequency. It has met with serious criticism, however, on the ground of the arbitrariness of my postulate, although this differs in no essential from that of all mathematicians who have introduced the Rule of Succession. On one point of criticism of the postulate—that one proportion is as likely as another—I think that my critics are mistaken in supposing that this postulate can be summarily dismissed on the ground that it leads to self-contradiction. I see no ground for this objection, premising that the postulate is constituted with the proper precision. Nevertheless, since writing *Part III.*, I have discarded it, and have replaced it by another postulate which carries the formula into calmer waters, and enables me to state more fully the kind of actual cases in which it can be claimed as reasonable.² This new formula contains an unknown term which, so long as it remains unfixed, assigns an indeterminate value to the probability, and thus helps to dispel the charge of arbitrariness. Without entering here into detailed discussion, I will only say that the postulate adopted in a controversial kind of theorem cannot be generalised to cover all sorts of working problems; so that it is the logician's business, having once formu-

¹ See *Logic, Part III.*, Appendix on Eduction.

² See the Appendix to this paper.—R. B. B.

lated a specific postulate, to indicate very carefully the factual or epistemic conditions under which it has practical value.

To give an easy illustration of the formula, suppose that we start with 13 equally likely characters as our prior epistemic position, and that after examining 100 cases, we find 71 instances of one of these characters. Our initial fraction $\frac{1}{13}$ then becomes

the fraction $\frac{1 + 71w}{13 + 100w}$ where w lies between 0 and 1; so that

the fraction becomes either $\frac{74}{139}$ or $\frac{217}{352}$ according as the indeterminate in the formula is, say, $\frac{1}{3}$ or $\frac{3}{4}$; that is to say, a probability of very low value has been converted, by experience of the great preponderance of a character in examined cases, to one of high value.

This simple numerical example shows the posterior probability assigned by my formula to be intermediate between the initial fraction and the fraction expressing the observed frequency. Thus, where one character has been preponderantly frequent, its initial probability is raised; and if some other character has been unexpectedly rare, its initial probability must be diminished. Where, as in the possible but unlikely case, the observed frequency has agreed with the initial fraction, the initial probability remains unchanged. Now these three results are in accordance with common sense—an accordance which may perhaps be claimed as a tentative justification for my formula. Moreover, if an indeterminate element be admitted into the formula, it has the further advantage of enabling us either to analyse the conditions which would give a high or a low value to the undetermined quantity, or, in default of such further examination, to express the required probability as indeterminate within certain easily specified limits; these limits lying somewhere between zero and one, just as probabilities lie between these two limits.

The indeterminateness of my formula is indicated by the coefficient w , whose value is intermediate between 0 and 1. I select the symbol w to stand for worth. Thus each observed case is regarded as modifying the previous probability by a certain amount. A single observation would have its maximum worth if it counted as 1. On the other hand, if we regarded the single observation as having less than its maximum worth, we should correspondingly diminish the value of w . Thus 5 observations would count as 5, if w counted as 1, would count as $\frac{5}{4}$ if w counted as $\frac{1}{4}$, as $\frac{5}{3}$ if w counted as $\frac{1}{3}$, and so on. The formula reached is such that the modification in the required probability is the greater, the greater is the value assigned to w ; and it is

for this reason that the coefficient w may be said to measure the worth of the statistical evidence as compared with the worth of the prior evaluation, which depended solely on the number of possible alternatives. The problem, therefore, that remains for the logician is to examine how the worth of one set of statistics involving, say, m observations, may differ from that of another set of statistics involving the same number of observations. It being granted that the worth of our statistics varies with their number (here m), it remains to consider upon what other conditions this worth depends.

Now it seems that there are two respects in which empirical evidence may have higher or lower worth apart from mere number. Firstly, the larger the number of independent characters in which the instances are known to agree, the greater is the worth; and secondly, the larger the number of differences among the characters which are known to vary from instance to instance, the larger again is the worth. Disregarding for the moment the first of these two intensional criteria, namely, the number of characters common to the observed cases, we may measure the worth as depending upon variety, by the ratio of the number of different combinations to the number of possible combinations amongst the varying characters. Thus if, using capitals for determinables, we represent the varying characters by determinate values of the combination UVW . . ., then any one instance will be say $u_1v_2w_3 . . .$, and the collective worth of our statistics may be measured by the ratio of the number of variations such as $u_1v_2w_3 . . .$ as compared with the total number of variations of which the determinables are capable. For example, if a new observation occurred which involved no further variation in this variable group of characters than was involved in the previous data, then such instance would count as zero; so that it is not merely the number m of observations, but the addition of variety which has to be taken into account.

Passing from the technical to the more philosophical aspect of the formula, we must consider its plausibility from the point of view of causal action—a concept required, in my view, to support any inference whatever of an inductive character. Expressing the result more concisely, it is asserted that the larger the number of instances examined, the more nearly will the formula for the probability of the next instance approximate to the observed frequency, as distinguished from its dependence on the initial probability. To appreciate its significance, we will contrast this summary result with a superficial formulation of the deductive and the inductive theories. Thus, in the deductive problem,

it is argued that the *a priori* probability assigns with approximate certainty the prospective frequency. In the inductive problem it is argued that the observed frequency will almost certainly be maintained in the unobserved cases. Both these statements are deplorably rash. My formula, on the other hand, while recognising some element of correctness in both, asserts that the required probability lies between its alleged *a priori* and its alleged *a posteriori* value, without attempting to place the value precisely in its intermediate position.

APPENDIX.

Immediately after the publication of *Part III.* of his *Logic* which included an "Appendix on Eduction", Johnson invented a new formula to follow from an improved postulate. This argument is appended here: I have inserted several qualifications and improvements in detail, but the substance of the reasoning is that given me by Johnson. Symbols are used in the same sort of way as in the Appendix to *Part III.*—R. B. BRAITHWAITE.

$p_1, p_2, \dots, p_r, \dots, p_\alpha$ are determinates under the determinable P .

μ is the proposition that m_1 instances of p_1
 m_2 instances of p_2
 \dots
 m_r instances of p_r
 \dots
 m_α instances of p_α } have occurred.

$$(m_1 + m_2 + \dots + m_r + \dots + m_\alpha = M).$$

\Rightarrow
 μ is the proposition that these instances have occurred in some definite order.

p_r^1 is the proposition that the next instance will be p_r ,

p_r^2 is the proposition that the next instance but one will be p_r , etc.

Postulate 1.—The probability that the next instance will be p_r depends only upon the number (m_r) of known instances of p_r and upon the total number (M) that have been examined. It is independent of the order in which the determinates have occurred, and of the proportions in which the other $\alpha - 1$ determinates have occurred.

It follows from this that $\overset{\rightarrow}{p_r/\mu h} = p_r/\mu h$, and that this probability is a function of m_r and M alone (within the conditions of the problem).

Write this $p_r/\mu h = f(m_r, M)$.

The α possibilities are exhaustive; therefore

$$f(m_1, M) + \dots + f(m_r, M) + \dots + f(m_s, M) + \dots + f(m_\alpha, M) = 1.$$

If m_r is changed into $m_r + 1$, there must be some other m —say m_s —which is changed into $m_s - 1$; therefore

$$f(m_1, M) + \dots + f(m_r + 1, M) + \dots + f(m_s - 1, M) + \dots + f(m_\alpha, M) = 1;$$

$$\therefore f(m_r + 1, M) - f(m_r, M) = f(m_s, M) - f(m_s - 1, M);$$

$$\therefore f \text{ is linear in } m_r,$$

$$\text{i.e. } f(m_r, M) = f_0(M) + m_r f_1(M).$$

$$\text{Since } 1 = \alpha f_0(M) + M f_1(M),$$

$$f(m_r, M) = f_0(M) + \frac{m_r}{M} \left[1 - \alpha f_0(M) \right].$$

$f_0(M)$ is the probability that the next instance will be p_r when none of the M known instances have been p_r . It therefore lies between 0 and 1. If it is 0, this probability is zero. If it is greater than $\frac{1}{\alpha}$, the probability that the next instance will be p_r diminishes with the number of known instances that have been p_r . We have to exclude these cases.

Postulate 2.—For every M , $0 < f_0(M) < \frac{1}{\alpha}$.

It follows from this postulate that $f_1(M)$ is never negative.

Write $\frac{f_1(M)}{f_0(M)} = w_M$. Then w_M is never negative nor infinite.

$$p_r/\mu h = f(m_r, M) = \frac{1 + w_M m_r}{\alpha + w_M M}.$$

Postulate 3.—Each of the different orders in which a given proportion $n_1 : n_2 : \dots : n_\alpha$ for N instances may be presented is as likely as any other, whatever may have been the previously known orders or proportions. [This is the Permutation-Postulate of *Part III.*, p. 183.]

$$\text{Hence } \overrightarrow{p_r^1 p_s^2 / \mu h} = p_r^1 p_s^2 / \mu h = p_s^1 p_r^2 / \mu h$$

$$\therefore p_s^2 / \mu p_r^1 h \cdot p_r^1 / \mu h = p_r^2 / \mu p_s^1 h \cdot p_s^1 / \mu h;$$

$$\therefore \frac{1 + w_M + 1 m_s}{\alpha + w_{M+1}(M+1)} \cdot \frac{1 + w_M m_r}{\alpha + w_M M}$$

$$= \frac{1 + w_{M+1} m_r}{\alpha + w_{M+1}(M+1)} \cdot \frac{1 + w_M m_s}{\alpha + w_M M}.$$

$$\therefore w_M = w_M + 1$$

$\therefore w_1 = w_2 = w_3 = \text{etc.} = w$ a constant for the problem.

[This argument does not apply to w_0 , but here the probability is $\frac{1}{\alpha}$ whatever w may be.]

$$\text{So in general } p_r/\mu h = \frac{1 + w m_r}{\alpha + w M}.$$

This is the formula used in the paper.

As M tends to infinity, if $\frac{m_r}{M}$ tends to a limit, this probability tends to that limit, unless $w = 0$.

The condition that w shall not be greater than 1 is that

$$f_0 \geq \frac{1}{\alpha + M}.$$

II.—A DEFENCE OF FREETHINKING IN LOGISTICS.

BY H. W. B. JOSEPH.

IN her very able and timely *Introduction to Modern Logic*, Miss Stebbing tells her readers that the proposition 'A unicorn exists' means 'There is an object c which is such that ϕx is true when c is substituted for x '.¹ For this doctrine she would not, of course, claim originality; but I suppose she would claim for it importance, accuracy and truth. May I submit some reasons why I feel a difficulty in allowing the claim?

1. It will be admitted that the *object c* would have to be a quadruped, that could beat the ground with its hoofs. But the c which I could substitute for x in the 'propositional function' ϕx , and so obtain something (*viz.*, a proposition) that is true, could not be a quadruped. I cannot put a quadruped into a proposition. Hence

2. We ought to write 'There is an object *called c* which is such that ϕx is true when c is substituted for x '. But c is not offered as what the object is really called; rather, as Humpty Dumpty said, it is what its name is called. But even that is not quite accurate. Although this analysis is part, at any rate, of an attempt to explain to us what we mean by such words as *a* or *an*, *any*, and therefore to get away from the need of using them, we have by c to understand *a* or *any* proper name or demonstrative: say *that*, or *Hornboy*.

3. A few words may be spent here, in passing, on the difference between a proper name and a demonstrative, because Miss Stebbing appears to regard the mere demonstrative as successfully realizing the ideal, to which the proper name aspires less successfully, and with a falling off from grace.² The ideal is that of indicating the subject of which a statement is to be made with a mind blank to *what* it is until something has been said about it. This, I think, is the old error of J. S. Mill, that a name can be merely denotative. The fact is that a demonstrative like *that* is related to a proper name like *Zeus* some-

¹ p. 145.

² pp. 25-26.

what as the eye of the Gorgons was to that of Polyphemus. Polyphemus just had his own proper eye, which was not any one else's; but the Gorgons had only one between them; it was each sister's proper eye when she had it, but was used now by one sister and now by another. So *that* is proper each time it is used; but it goes the rounds like the Gorgons' eye. When it is in use, it is no more purely denotative than is the name *Polyphemus*; just as the Gorgons' eye functioned like his, when in the forehead of one of the dread sisters.

4. Let us then boldly take or make a proper name, and not a mere demonstrative. 'A unicorn exists' means 'There is an object called *Hornboy* which is such that ϕx is true when *Hornboy* is substituted for x '. But I am afraid we must substitute something for ϕ also, if we are really to get at the meaning wanted: 'There is an object called *Hornboy* which is such that " x is a unicorn" is true when *Hornboy* is substituted for x '. Here firstly I notice the words 'There is'. 'There is an object' is the equivalent, I suppose, of 'An object exists'. The one 'locution' does not explain the other. I venture therefore to restore 'exists', and to write, as the meaning of 'A unicorn exists', 'An object called *Hornboy* exists which is such that " x is a unicorn" is true when *Hornboy* is substituted for x '.

5. But now, if I am asked why ' x is a unicorn' is true when *Hornboy* is substituted for x , I do not see what answer to give except that *Hornboy* is the name of an existing unicorn. And I should have been innocently inclined to say that 'Hornboy is a unicorn' is true because a unicorn exists and is called *Hornboy*; and that I might know that a unicorn exists, and the meaning of saying that it exists, without knowing that it was called *Hornboy*, or what it was called; though perhaps, since unicorns are mortal, not without perceiving it.

6. However, secondly, there are the words 'such that', as well as 'there is'; and it may be urged that these are no alternative and equivalent locution to any words in the statement whose meaning is to be explained, but a very important element of the explanation. Let us then consider their meaning. The expression 'such that' means, I think, 'of a character entailing as a consequence that'; and its natural use is when we either do not know the character, but do know that from which as consequence we infer regressively to there being the character, or when, though we know the character more or less adequately, the description of it would be too elaborate for the context. An example of the former sort is afforded

by the proposition : 'The structure of a germ-cell is such that it determines the growth of an individual specifically like the individual in which it was formed'. We do not know what it is in the germ-cell which makes this necessary, but we believe that there is something. As an example of the latter sort we may take the proposition : 'The conditions of life in the middle ages were such that many good men thought they could only live worthily as religious'. It would be possible to describe the conditions which made it hard for them to live as they thought they ought 'in the world', but it would take a long time. When, however, I say 'An object called *Hornboy* exists such that "*x* is a unicorn" is true when *Hornboy* is substituted for *x*", if I am asked what it is about the object called *Hornboy* which entails this consequence, I can only say (as I have already pointed out), its being a unicorn. Hence, if I do not know what 'A unicorn exists' means before this 'analysis', I fail to see how I can know that to be true, which is offered as a more correct statement of my thought in saying that a unicorn exists.

7. I would ask next whether it is accurate to say that ϕx , or '*x* is a unicorn', is true when *Hornboy* is substituted for *x*. It is admitted by the logicians that a propositional function is itself neither true nor false; to get what can be true or false, a determinate value must be given to the 'variable' *x*. But if so, when I substitute *Hornboy* for *x*, and get 'Hornboy is a unicorn', it is not '*x* is a unicorn' that is true, but only 'Hornboy is a unicorn'. Hence all that I am entitled to offer as the meaning of 'A unicorn exists' is 'An object called *Hornboy* exists which is such that "Hornboy is a unicorn" is true'. It follows that the real meaning of the statement 'A unicorn exists' is, on this theory, 'The facts are such that "Hornboy is a unicorn" is true'. In other words, whereas I had supposed my proposition to be stating what some ingredient of the real world is, it is really only declaring that, because of what some ingredient of the real world might be stated but is not stated to be, a different proposition which I had not made is true. The fundamental error here seems to me to be the assumption that logic studies not our thought about things, but our statements of our thought about things, or our thought about these statements.

8. This error is, I think, closely akin to one which has given much trouble in the analysis of syllogism. A statement of the form '*Z* is *X*' is true because statements of the forms 'All *Y* is *X*' and '*Z* is *Y*' are true. But why are these true? Be-

cause of the facts being, which are stated ; and until I know the facts, I cannot know the truth of my 'premises'. But how can I know the facts included in a statement of the form 'All Y is X '? Only by knowing *inter alia* the fact stated in the conclusion of the form 'Z is X '. Therefore it is objected that syllogism begs the question. And so it does, if it is concerned with the relations of statements. On the other hand, if we take 'All Y is X ' to mean 'Being- Y necessitates being- X ', what becomes of the middle term? For the minor premise will not be of the form 'Z is being- Y '. Rather, Z (i.e., what this symbol stands for) has 'being- Y '. We may find in this a reason for Aristotle's expression, $\tau\ddot{o}\; B\;\dot{\iota}\pi\acute{a}\rho\chi\acute{e}i\;\tau\ddot{\omega}\;\Gamma$; but if so, he was not equally correct in saying $\tau\ddot{o}\; A\;\dot{\iota}\pi\acute{a}\rho\chi\acute{e}i\;\tau\ddot{\omega}\; B$. In demonstrative reasoning in particular, in which he held the middle term to be a definition of the major, he was not justified in saying this. If the sun is eclipsed when it is on the opposite side of an opaque body to the earth, 'being on the opposite side of an opaque body to the earth' and 'being eclipsed' are something which the sun 'has', not 'is'; but 'being eclipsed' is not something which 'being on the opposite side of an opaque body to the earth' 'has', but 'is'. In other cases, the relation of middle and major is different from what it is in this example. 'Being an organism' neither 'has' nor 'is' 'being mortal', but (we think) necessitates it. And though 'to be a man' is 'to be an organism', the familiar syllogism is not about 'being a man' but about men. 'Being an organism', then, belongs to any man, and necessitates 'being mortal'; therefore 'being mortal' belongs to any man.

9. Now when we put the argument thus, we see that the traditional syllogistic formula fails to bring out the nature of the inference, but equally that its nature is very different from that of the relational inferences in mathematics. In these we are told by Miss Stebbing, 'it is upon the property of transitivity that the validity of the inference depends'.¹ This, I think, is a mere tautology. For by the transitivity of a relation is meant that when a stands in such a relation to b and b to c , a stands in that relation to c . So the validity of the inference ' a R b , b R c ∴ a R c ', depending upon the transitivity of R, depends upon the fact that when ' a R b ', and ' b R c ', then ' a R c ' : in other words, upon itself. But this much is true about relational inferences, that the inferred relation is of the same kind with both those from which it is inferred ; otherwise we could not speak thus of its transitivity. Thus 'The

¹ p. 114; cf. p. 174.

accession of William I was *earlier than* the consecration of Lanfranc, and that *earlier than* the consecration of Anselm; therefore it was *earlier than* the consecration of Anselm'. But 'Being an organism *characterizes* men and *necessitates* being mortal, therefore being mortal *characterizes* men'. It is, of course, true that in most relational inferences (not, *e.g.*, where equality is the only relation involved) the inferred relation, though of the same kind with those from which it was inferred, is not precisely the same. If the accession of William I was four years earlier than the consecration of Lanfranc, and this twenty-three years earlier than the consecration of Anselm, the accession of William I was twenty-seven years earlier than the consecration of Anselm. Still, to be 4, 23, 27 years earlier are all relations of the same kind, whereas to characterize a subject and to necessitate a character, if they are relations at all, are not relations of the same kind.

10. We have seen in § 7 that it is inaccurate to say that '*x* is a unicorn' is true when *Hornboy* is substituted for *x*. It is no less inaccurate than if I were to say that sawdust nourishes when bread is substituted for sawdust. Sawdust indeed never nourishes; but then, '*x* is a unicorn', not being a proposition, is never true. When bread nourishes, it is not sawdust which is nourishing; but equally, when '*Hornboy* is a unicorn' is true, it is not '*x* is a unicorn' which is true. So the cases are parallel. But what prevents this being as obvious as it should be is the failure to realize the false analogy involved in the very notion of a propositional function.

11. There is no real analogy between a mathematical and a propositional function, nor between the so-called variables in the one and the other. A mathematical function is always something quantitative or having degree, like an area, angle, velocity, ratio, birth-rate, or other subject of mathematical investigation (though where it has degree, its values may also exhibit differences of quality). The same is true of its 'argument'. A mathematical variable, whether argument or function, is the common or determinable nature in various determinate and quantitative or intensive subjects; the various determinate and quantitative or intensive subjects in which this common determinable nature is found are its values. By 'subject' here is not, of course, meant a subject of attributes, but a subject of investigation, which may be itself an attribute; thus the colour of a face may be a function of the blood-pressure. But a propositional function is nothing more than a set of symbols, like ϕx , or of words and symbols, like '*x* is a unicorn' to which a meaning

can be given. Its argument is one of the symbols, and so is a part of the propositional function, whereas the argument of a mathematical function is not a part of the function ; θ is no part of $\sin \theta$. The logicians wriggle, I think, over this failure in the analogy by the use of the symbol \hat{x} , analysing ϕx into the argument x and the function $\phi \hat{x}$; but these do not really differ as do an angle and its sine, nor are they really related, as those are. A propositional function also has no values in the sense in which a mathematical function has, nor has its argument.

12. We may consider more closely the difference consisting in there being no values of the argument of a propositional function. In the mathematical function $\sin \theta$, one value of θ is 90° ; 90° is a determinate form of the determinable common nature 'angularity' of all angles ; i.e., the symbol θ is a symbol for any determinate form of this determinable nature. But in the propositional function ' x is a unicorn', where x is supposed to be the argument analogous to θ , what is the determinable nature of which Hornboy, one of the 'values' of x , is a determinate form ? The only possible answer is not 'proper name' but 'unicorn' ; so the argument, one of whose values is Hornboy, and of which ' x is a unicorn' (or $\phi \hat{x}$) is a function, is itself 'unicorn' ; which is as if the argument of $\sin \theta$ were sine. Incidentally, it should be observed that the constants of mathematical functions are in another way not analogous to those of propositional functions. In ' $\sin 90^\circ = 1$ ' , 90° is a constant ; but the proposition is universal, not singular ; we keep in mind the distinction between the individual angle formed by two straight lines at right angles to each other, and its magnitude which is the same in it and in all other angles so formed ; ' 90° ' in fact is a 'general name'. But in 'Hornboy is a unicorn', 'Hornboy' is a proper name, and the proposition is singular.

13. This failure of analogy between the argument of a mathematical function and the so-called argument of a propositional function will come out more clearly, if we consider the alleged relation of 'implication'. 'All bodies are divisible' should, we are told, be stated in the form : " " x is a body " implies " x is divisible " for all values of x ; in symbols, $(x). \phi x \supset \psi x$. Now what is here the determinable, symbolized by x as θ symbolizes some *angle*, of which, when a 'constant' is substituted for the 'variable' x , that constant is a 'value' ? It is maintained that the 'formal' implication holds, because *whatever* name be substituted for x , there results a true 'material' implication ; there being a relation of material implication between any two

propositions except those, of which the first is true and the second false. Hence for x I may substitute, *salva implicacione*, as well 'yesterday' or 'unity' as 'Hornboy'. 'Hornboy is a body' implies 'Hornboy is divisible', because both propositions are true; but equally 'Yesterday is a body' implies 'Yesterday is divisible', because the first proposition is false and the second true; and 'unity is a body' implies 'unity is divisible', because both propositions are false; in all three cases the condition is fulfilled, that the first proposition should not be true and the second false. But yesterday and unity and Hornboy are not determinate forms of the same determinable, as are 30° , 45° , 90° and other values of θ . Nor do we fare better if we suppose the 'variable' and the 'constants' to be the symbols and not what they symbolize; *yesterday*, *unity*, *Hornboy* are not determinate forms of the symbol x .

14. I cannot refrain from questioning whether there is a relation of implication such as this logic alleges. How are the propositions 'Hornboy is a body' and 'Hornboy is divisible' related? Both are true, and so far they are similar. How are the propositions 'Unity is a body' and 'Unity is divisible' related? Both are false, and so far they are similar, but not in the same respect as the first two. How are the propositions, 'Yesterday is a body' and 'Yesterday is divisible' related? The first is false and the second true, and so far they are dissimilar. And they are equally dissimilar if taken in the other order. But a disjunction of the relations, similarity in respect of truth, similarity in respect of falsehood, dissimilarity in respect of truth and falsehood, is not itself a relation, any more than a disjunction of the colours red, blue, yellow is itself a colour. And the question whether two propositions are dissimilar in respect of truth and falsehood is unaffected by the order in which they are taken. And if there be any other relation between propositions said one to imply the other, which the word 'implication' can denote, except those which I have enumerated, I should be glad to have it pointed out to me.

15. We have seen that the 'argument' of a propositional function has no 'values' analogous to those of a mathematical function. We may now observe that the propositional function also has none. Miss Stebbing admits this, in an interesting criticism of Frege's doctrine, who did not.¹ Frege, looking for an analogy, maintained that propositional functions have two values, truth and falsehood. Actual propositions were de-

¹ p. 132.

scriptions, and described either the true or the false. Thus the propositional function 'x is a body' would be analogous to $\sin \theta$. To the argument x I may give what value I please, say 'yesterday' or 'Hornboy'; when I say 'yesterday is a body', the proposition describes the false; when I say 'Hornboy is a body', the true; as, when I give θ the value 90° , $\sin 90^\circ$ describes unity, and when I give it the value 30° , $\sin 30^\circ$ describes $\frac{1}{2}$. (It is true that x is an 'unrestricted variable', whereas the values of θ are restricted to angles; 'sin yesterday' describes nothing.) Now if Frege's doctrine were true, there would be two subjects of knowledge only, the true and the false; all propositions would give us information about one or other of them, and false propositions would be just as instructive as true ones. Miss Stebbing therefore is fully justified in rejecting Frege's doctrine, as Lord Russell had done, though he retains the expression 'truth-value'. 'It is convenient', he says,¹ 'to speak of the truth of a proposition, or its falsehood, as its "truth-value"; i.e., truth is the "truth-value" of a true proposition, and falsehood of a false one'; as if ugliness were the beauty-value of the Duchess Maultausch. Convenience is relative to our purposes. But Lord Russell does not retain Frege's doctrine; and without it, propositional functions have no values analogous to those of mathematical functions.

16. It might perhaps be said that, as mathematical thinking is about relations of numbers, quantities, figures, etc., so logical thinking is about relations of propositions; and that as the first is carried on by operating with symbols for the subjects related, so is the second; we may therefore regard the propositional function as a set of symbols, with the help of which we realize to ourselves and indicate to others relations of propositions. But the analogy will not work. The equation ' $(x + y)^2 = x^2 + 2xy + y^2$ ' by means of symbols enables me to realize for myself or indicate to others that the square of the sum of any two numbers is made up of the squares of those numbers and twice their product, and that if a straight line be divided into any two parts, the squares on the parts, together with twice the rectangle contained by them, is equal to the square on the whole line. Here, on both sides of '=' , we have symbols, not numbers or areas; but by the help of those symbols we think of relations between numbers and areas. In logistics we may write: (x) . $\phi x \supset \psi x : \supset : \phi a \supset \psi a$ —'the pro-

¹ *Introduction to Mathematical Philosophy*, p. 146.

position "for all values of x , ϕx implies ψx " implies the proposition " ϕa implies ψa ". Here the whole expression either is a proposition, or is a symbol for the proposition set out after it in words; and the same is true of the partial expressions on either side of ' \therefore '. The only propositional functions are the ϕx and ψx which occur in the expression ' $\phi x \therefore \psi x$ '. Since, therefore, my thought, or that of those with whom I am communicating, is being directed to propositions, whether the propositions be such as ϕa , or such as what ϕa may be a symbol for, e.g., 'this is red', in either case it cannot be said that as mathematical symbols are to what they enable me to realize to myself or express to others in mathematics, so logistical symbols are to what they similarly enable in logistics. For in our mathematical symbols we express propositions about something other than propositions; but in our logistical symbols we express propositions about propositions again.

17. That a proposition *is* a set of symbols is not, I think, held in orthodox logistics. Miss Stebbing defines a proposition¹ as 'anything that is believed, disbelieved, doubted or supposed'. But unless we are to understand that these are alternative 'attitudes' of the mind to the same somewhat, the definition seems to me like defining colour as 'anything that is seen, heard or tasted'. Do I believe statements, persons, or facts? If it be said 'statements', then what is believed is not what is supposed; for surely I do not suppose a statement, when I make a statement by way of supposition. If it be said 'persons', equally what is believed is not what is supposed; but, of course, it is not meant that a proposition is a person. If it be said 'facts', there is the difficulty that in some sense I may believe, and very commonly suppose, what is not a fact. No doubt language allows me to say 'I believe that mass is a quantity', or 'I do not believe (disbelieve) that mass is a quantity', or 'I doubt that mass is a quantity', or 'I suppose that mass is a quantity'; but I can also say 'I know that mass is a quantity': and that Miss Stebbing does not include what is known within the range of her definition shews her not to be looking merely to the verbal form 'that A is B'. But whether she thinks 'proposition' to be an equivocal term, or if univocal, what she thinks it stands for—what she thinks that is which can be believed, disbelieved, doubted or supposed—her 'precise definition' has not enabled me to understand. We read on p. 161 that we must 'distinguish between

¹ p. 33.

the sentence and the proposition expressed by the sentence. It is important to remember that the constituents of a proposition are not *words*, but, in the case of a true proposition, are the constituents of the corresponding fact'. But the constituents of the fact that Brutus killed Cæsar were Brutus' action, and Cæsar's gaping wound and death; if these are constituents of the proposition 'Brutus killed Cæsar', between what is the correspondence? And what of a false proposition, or a mere supposal? If their constituents are not constituents of corresponding facts, are they constituents of non-corresponding facts, or not constituents of facts at all? To say they are constituents of non-corresponding facts would seem to make a false proposition merely a different conjunction of the same factors which in other conjunctions constitute facts. To say they are not constituents of facts at all, while those of true propositions are, would certainly be to make the term 'proposition' equivocal.

18. The passage from which the last quotation is taken is in Chapter IX. on 'Descriptions, Classes and General Propositions'. The problems which logicians have found in these are genuine; but I am very sceptical of the solutions they offer. Under 'general' propositions they include, or at least some of them include, both universal and particular, contrasting these with singular, or 'simple' propositions. 'The traditional Logicians were guilty of serious confusion when they grouped "singular propositions" as a sub-class of "universal propositions". What is important is to distinguish singular (*i.e.*, simple) propositions from both universal and particular (*i.e.*, general) propositions'.¹ I do not know whether the proposition beginning 'the traditional Logicians' is itself meant to be universal or particular. If the former, it is, of course, false. Aristotle himself opposed propositions about individuals to those here called general; and the grouping of singulars with universals for the purpose of working out the syllogistic scheme ought not to be taken as meaning that singular propositions were thought to be of the same nature with universal. Logicians are the last persons who should quarrel with a notational convention whereby a syllogistic 'calculus' can be simplified. But if it be a question of appreciating the real difference between singular and universal propositions, I am inclined to think the verdict should go in favour of the 'traditional' logicians. For the logicians treat a universal proposition as

¹ p. 150.

a 'formal implication', and that as a compendious statement of all the 'material implications' which result from substituting a 'constant' for the 'variable' x in the propositional functions entering into the 'formal implication'. Thus ' $(x) . \phi x \supset \psi x$ ' is an abbreviation for ' $\phi a \supset \psi a . \phi b \supset \psi b . \phi c \supset \psi c . . .$ '. Now none of these material implications can be known to be true, without knowing about the particular 'constant' either that ϕ is falsely or ψ truly asserted of it, or both. This can only be known by acquaintance with the constant in question; and since the constants for which it must be known, if the formal implication is to be known to be true, are infinitely numerous, or at least indefinitely more numerous than what we can be acquainted with, it follows that no 'universal proposition' can be known to be true; while even if *per impossible* it could, it would be only a 'compound' or conjunction of disjunctions of singular propositions, and would differ much less profoundly from a singular proposition than the Aristotelian tradition taught. Aristotle in the first chapter of the *Posterior Analytics* says that the proposition 'Every multiple of 2 is even' is not concerned merely with those numbers which we know to be multiples of 2, *i.e.*, those with which we have acquaintance. 'Men know that of which they possess and obtained demonstration; and they obtained demonstration not of every triangle or number with which they are acquainted, but simply of every number and triangle; no premise is taken in the form "The numbers or rectilinear figures with which you are acquainted are so-and-so, but is of all"'. The fact is that logistical theory rejects general knowledge. 'The world', says Dr. Wittgenstein,¹ 'is completely described by the specification of all elementary propositions, plus the specification which of them are true and which false'. So we are told, in the *Introduction* to the second edition of *Principia Mathematica*,² 'Given all the atomic propositions, together with the fact that they are all, every other true proposition can theoretically be deduced by logical methods'. But the deduction is at bottom no more than, after asserting all true atomic propositions, the selecting out of them all some which, because included among them, we may assert to be true. 'Logic is helpless with atomic propositions, because their truth or falsehood can only be known empirically'.³ Prof. Moore, in his paper on *External and Internal Relations*, seems to hold a view in principle the same, where he distinguishes between

¹ *Tractatus Logico-philosophicus*, 4.26.

² 2nd ed., p. xv. ³ *id. ib.* p. xvii.

the relation asserted when it is said that p 'entails' q , or q 'follows from' or 'is deducible from' p (p and q being propositions), and the relation asserted when it is said that p 'implies' q —a relation, according to him,¹ 'very fundamental', though we have seen reason to question its reality, as conceived by the logicians. For the only examples he gives of entailing or being deducible are, that the propositions 'this is red', 'this is a right angle' entail the propositions 'this is coloured', 'this is an angle' respectively, and the premises of a syllogism in Barbara 'taken as one conjunctive proposition' entail the conclusion; what is entailed being, conversely, deducible from what entails it.² Now this would seem to shew that Prof. Moore, no less than the authors of *Principia Mathematica* and Dr. Wittgenstein, rejects all that Kant called synthetic *a priori* knowledge. I may deduce true atomic propositions by the help of true formal implications, because these are no more than compendious assertions of material implications between the atomic propositions which result when their 'variables' are replaced by 'constants'; but to know the relevant material implication, knowledge of which is required for knowing the truth of the formal implication, is to know the conclusion I wish to draw; so that my deduction is really like drawing out of a bag something I have put into it. And that is all that I do when I infer from such a proposition as 'this is a right angle' that 'this is an angle': from 'angle of 90° ' I pick out 'angle'. I take it that the premisses of a syllogism in Barbara 'taken as one conjunctive proposition' tell me that a is an x , and it and every other x is y : the conclusion tells me that a is y . The authors of *Principia Mathematica* say,³ and Miss Stebbing seems to agree,⁴ that 'inference is the dropping of a true premise'—i.e., saying less than you know and have said before. This is the same doctrine again. We may assert fewer propositions than all those we know, or less than what we know about some individual. Either way, the whole contains the part. Prof. Moore's instances of entailing are 'analytic' in respect of intension, Dr. Wittgenstein's deduction is analytic in respect of extension; that is the only difference. The first have a show of universality, because, if being a right angle is the same in this and that right angle, it entails being an angle in them all; it is not merely that the proposition 'this is a right angle' entails the proposition 'this is an angle'. The second have not even a show of universality; indeed, Dr.

¹ p. 296.² pp. 285, 291.³ I., p. 9.⁴ p. 215, n. 1.

Wittgenstein has the credit, according to F. P. Ramsey, 'alone of all philosophers' of having seen through 'that great muddle the theory of universals'.¹ Ἀλλὰ μέντοι, εἰπεν ὁ Παρμενίδης, εἴ γέ τις δή, ὡς Σώκρατες, αὐτὸν μὴ ἔασει εἰδη τῶν ὄντων εἶναι, εἰς πάντα τὰ νῦν δὴ καὶ ἄλλα τοιαῦτα ἀποβλέψας, μηδέ τι ὄριεῖται εἶδος ἐνὸς ἐκάστου, οὐδὲ ὅποι τρέφει τὴν διάνοιαν ἔξει, μὴ ἐῶν ἴδεαν τῶν ὄντων ἐκάστου τὴν αὐτὴν ἀεὶ εἶναι, καὶ οὕτως τὴν τοῦ διαλέγεσθαι δύναμιν παντάπασι διαφθερεῖ.²

19. About the logistical treatment of classes I will say only this. It springs from a suspicion that there are no classes. 'If there is such an object as a class, it must be in some sense *one* object. Yet it is only of classes that *many* can be predicated. Hence, if we admit classes as objects, we must suppose that the same object can be one and many, which seems impossible'.³ We must therefore avoid language, or notation, that seems to assume that there are classes. The procedure adopted is comparable to that adopted with 'descriptions'. A descriptive phrase like 'the present King of France' seems to assume that there is a King now in France. We must therefore substitute for propositions in which such phrases occur others which are equivalent but do not appear to make that assumption. So for propositions in which classes are mentioned, or notation in which symbols for classes occur, we must substitute equivalent propositions or notation in which classes are not mentioned, or these symbols do not occur. How this might be done is explained in the third chapter of the *Introduction to Principia Mathematica*, for the logistical notation in a simple case. That it could always be done cannot even so be asserted, unless the 'Axiom of Reducibility' be granted. Assuming, however, that it could always be done, though perhaps only at the cost of an unmanageably cumbrous notation, we may continue to use symbols for classes and deny that there are such objects. Now the criticism I would make is this, that the authors are not really getting away from the thought of such objects, by this substituted notation, but only from the use of symbols expressly for them; just as Mill, when he denies that there is any causal necessity, and says that we mean by cause only the invariable and *unconditional* antecedent, is not really getting away from the thought of that necessity which he rejects, but only from the use of a name for it.

20. The logistical treatment of propositions containing descriptions is held to be an important achievement. It consists

¹ *Foundations of Mathematics*, p. 134.

² *Plato, Parm.*, 135B.

³ *Principia Mathematica*,² I., p. 72.

in substituting for a proposition containing a description, or descriptive phrase, such as 'the Church in Hyde Park' one from which the description is eliminated. Thus for 'the Church in Hyde Park is large'; we should substitute the following: 'There is an object which (i) is a Church in Hyde Park, (ii) is large, and (iii) is such that any Church in Hyde Park is identical with it'.¹

21. Now the objection to the original proposition is that, as there is no church in Hyde Park, it cannot be a constituent in any proposition. This objection implies that if there were a church in Hyde Park, it could be a constituent in a proposition; and therefore, in what is believed or supposed. It seems to follow that I cannot believe or suppose there is an individual object that does not exist. Yet I doubt if this consequence is intended. The difficulties about false belief, and about supposition, do not seem to me really lightened by this theory of descriptions. It directs our attention no doubt to an unacknowledged assumption contained in such a proposition as 'The Church in Hyde Park is large', *viz.*, that there is a church in Hyde Park; but does it do more? It may be important thus to warn the unwary, just as it may be important to call attention to the fallacy of Many Questions, which in principle involves the same issue. But what more has been done? If there is no object which (i) is a Church in Hyde Park, (ii) is large, and (iii) is such that any church in Hyde Park is identical with it, that also cannot be a constituent in a proposition. Let us take the logistical notation, ($\mathcal{H}c$): $\phi x \cdot \equiv_x x = c : \psi c$. Here c is a symbol for an individual object, ϕ for 'is a church in Hyde Park', ψ for 'is large'; and x is a 'variable' for which it is supposed that a symbol may be substituted designating any individual object we please.² The whole is to be read 'There is an object c such that, for all values of x , " x is a church in Hyde Park" is equivalent to " x is identical with c " ; and c is large'. If there is no church in Hyde Park, a church in Hyde Park cannot be a constituent in the proposition ' x is a

¹ *Modern Introduction to Logic*, pp. 139, 140. Prof. Moore has kindly called my attention to an apparent slip in the paragraph, beginning '(4)' in which Miss Stebbing treats correspondingly to the above a proposition containing a description, and offers what she regards as the proper formulation of it in a proposition which is true, *viz.*, 'The Round Church in Cambridge is small'. The word 'it' occurs between '(ii)' and 'is small'. In working out the theory for the example of a description where the proper formulation is a proposition that is false, I have ventured to correct this.

² *Ibid.*, p. 144.

church in Hyde Park'. It is idle to reply that this is not a proposition but a propositional function. For if there being no church in Hyde Park is a reason why a church in Hyde Park cannot be a constituent in a proposition, it should equally be a reason why it cannot be a constituent in a propositional function; for part of the meaning of the above rigmarole is that when you substitute c for x , you get a proposition; so that we have not got rid of the thought expressed by saying ' c is a Church in Hyde Park'. And here the non-existent is a constituent of a proposition as much, or as little, as in 'The Church in Hyde Park is large'. Also, if there is no such object c , it cannot be a constituent in the proposition ' c is large'.¹

22. I said 'rigmarole' advisedly. For what can really be meant by saying that 'for all values of x , " x is a church in Hyde Park" is equivalent to " x is identical with c "'? Two propositions or propositional functions are equivalent when each implies the other, *i.e.*, when neither can be true, or false, without the other being so. Now for what values of x can x be identical with c ? Plainly for no value but c . If therefore there were one and only one church in Hyde Park, but there were divers other buildings, and for x be substituted a symbol b designating one of these, then ' b is a church in Hyde Park' and ' b is identical with c ', are both false; while if for x be substituted c , ' c is a church in Hyde Park' and ' c is identical with c ' may be thought both true. But whereas b and c are symbols for two things which we can say are not identical, c and c are not symbols for two things which we can say are identical. We do not really mean that when x takes the value c , the value it takes is identical with c , as if that were something different from its taking the value c . This analysis of the proposition 'The Church in Hyde Park is large' represents us as

¹ It has been objected to me, that 'a church in Hyde Park' is not a constituent of the proposition (or propositional function) ' c (or x) is a church in Hyde Park', although 'the church in Hyde Park' is a constituent of the proposition 'the church in Hyde Park is large'. This distinction would not remove the difficulty that the 'object c ' is a constituent both in ' c is large' and in 'There is an object c , such that etc.', so that we have not got rid of propositions with a non-existent constituent, as the theory professes to do. But neither does it accord with Miss Stebbing's account of the constituents of a proposition on p. 34, nor with the language of *Principia Mathematica* (v. *Introd.* to 2nd ed., Vol. I., p. xx). And it seems to be a highly arbitrary way of meeting the above criticism. 'The church in Hyde Park is large' no doubt assumes that there is one, and only one; but so does 'That is a church in Hyde Park, and there is no other'.

meaning what we do not mean. Though it is true that, if there were one and only one church in Hyde Park, the propositions 'that is a church in Hyde Park' and 'that is the object designated by *c*' would, if the word 'that' were being used with reference to anything else than the object designated by *c*, both be false, yet this is no part of what we are asserting in the proposition 'The Church in Hyde Park is large'. Further, if we consider the proposition 'There is an object which (*i*) is a church in Hyde Park . . . and (*iii*) is such that any church in Hyde Park is identical with it', we shall find that this use of 'such that' is obnoxious to the criticism in § 6 above.

23. Miss Stebbing and those whom she follows cannot avoid admitting that we may believe the fact that is not, and express that belief in words; they jib at allowing that we can name the thing that is not. Is there really less difficulty about the first than about the second? I do not minimize the gravity of the difficulty with which the theory of descriptions is wrestling. I only question whether that theory has made so important a contribution to its solution as one would like to think. After all, there are false propositions; what are their 'constituents'? Plato said of a man speaking falsely, *τὰ μὲν ὅντα τρόπον τινὰ λέγει, οὐ μέντοι ὡς γε ἔχει*¹—'he states in some way what is, but not as it is'. Yet the peculiar combination which, when he states this, a man thinks (unless he is lying) that he apprehends in the real 'constituents' does not exist in them at all.

24. What then is really 'analysed' in the symbolism of which the interpretation is what I have above called a rigmarole? Not any real state of affairs; and not a form of words. Yet it might be that if I were justified by the state of affairs in putting down on paper the form of words, or *λόγος*, 'The Church in Hyde Park is large', I should be justified in putting down that other *λόγος*, the rigmarole above; and equally in putting down ($\exists c$) : $\phi x \equiv_x x = c : \psi x$, if the meaning of these symbols had been suitably agreed. Logic, it might then be said, is concerned with the question what sets of symbols justify what other sets. Such a view of logic might be regarded as analogous to Hilbert's view of mathematics, that it is concerned with its symbols, and the rules of the game in combining them. And it would be consonant so far with the logistical doctrine that pure mathematics is just logic, or an outgrowth of logic. But as Hilbert's view is exposed to the question 'Why

¹ *Euthyd.*, 284C.

these rules?', so this view of logic will have to consider why, when we are justified in setting down certain symbols, we are justified also in setting down certain other symbols. And I think it will be hard put to it to find an answer to this question within its own presuppositions.

H. W. B. JOSEPH.

why,
we are
and I
question

PH.

III.—LOGICAL CONSTRUCTIONS (III.).

BY JOHN WISDOM.

INTRODUCTORY.

(i) *Re-orientation*.—In the earlier instalments of this paper I defined logical constructions in terms of ostensive sentences and ostensive sentences in terms of sketches and indicatives. I defined a sketch as a sentence which shows the form, and names all the elements, of a fact, and an indicative as a sentence which shows the form, but does not name all the elements, of a fact. All this is true in the sense of ‘ostensive’, ‘sketch’ and ‘indicative’, which is defined in terms of that sense of ‘shows the form and names the elements of a fact’ which I intended. Unfortunately, however, there are many senses other than that I intended. And this ambiguity must be removed if logical constructions are to be defined. For when we say “Tables are logical constructions” our point is not that sentences beginning “Tables . . .” are not ostensive (in any sense), but that they are not *Ostensive* (in the sense I intended). Indeed, it is important to say that tables are logical constructions only because such sentences as “Tables are brown” *are* ostensive in some sense, but *not* in that sense I intended.

Sentences which are ostensive but *not-Ostensive* I call *non-Ostensive, specious or secondary*.¹

¹ ‘Non-Ostensive’ is unsatisfactory because it suggests a purely negative character *not-Ostensive* instead of the mixed character *ostensive-but-not Ostensive*. ‘Specious’ is unsatisfactory because it suggests a psychological character *misleading as to Form and Elements*. This psychological character is the important *consequence* of non-Ostensiveness. On the other hand ‘Ostensive’, we shall find, brings out well the relation between ostensive and *Ostensive* sentences. ‘Secondary’ for non-Ostensive and ‘Primary’ for *Ostensive* would do if ‘secondariness’ were not so clumsy. I should welcome suggestions.

In this paper two operations are performed. First, in the present instalment, ostensive sentences are defined in terms of 'showing the form', 'specifying the elements' and 'exhibiting the arrangement' of a fact. Second, in the next instalment, this trio of expressions is found ambiguous and then this ambiguity is removed. It is removed by noticing that it is systematic and dependent upon the ambiguity of 'fact' and thus of 'form', 'elements' and 'arrangement'. In terms of the *primary* sense of 'fact', 'elements' and 'arrangement' Showing, Specifying and Exhibiting and thereby Ostensiveness are picked out. In terms of Ostensive sentences logical constructions are defined.

(ii) *Conventions Adopted.*—In this paper until we reach *accounts*, we shall be concerned with simple sentences. A simple sentence contains no subsidiary clauses, participles or conjunctions, though it may contain adverbs. Consider those sentences which are made either from one proper name (grammar-book sense) and one adjective (with copula), or one proper name with one intransitive verb; these give us what will be called one-termed simple sentences. Consider those sentences which are made from several proper names and one preposition (with copula), or several proper names with one transitive verb; these give us many-termed simple sentences. Consider next all sentences which may be obtained from either of these two classes by substituting 'something' for one of the proper names or adjectives or verbs; these give us what will be called incomplete simple sentences. The sum of these three classes is roughly co-extensive with simple sentences, *e.g.*, "Bob is happy" and "England fears France" and sentences derived from them by substituting 'Something' for a proper name are all simple sentences. Hence "Something is happy" is a simple sentence, but (1) "Something which is wicked is happy", (2) "Everything which is wicked is happy", (3) "The thing which is wicked is happy" are not simple sentences. Throughout this paper 'sentence' means 'simple sentence'.

Throughout this paper sentences of the same logical level as the facts they *locate* are neglected, *i.e.*, roughly, sentences in which a relation (component) is a demonstrative symbol for the relation (component) of the fact *located* are neglected.¹ And sentences are spoken of according to the following conventions: (1) "The sentence 'This adjoins that' sketches the fact *This adjoins that*" is to mean "The sentence (in our original sense)

¹ For *logical level*, see MIND, April, 1931.

'Adjoins' is between¹ 'this' and 'that' sketches *This adjoins that*'. (2) The 'form' of a sentence is to be the number of its *constituents* while the form of a fact is the number of its elements. Hence, although 'Adjoins' is between 'this' and 'that' is a triadic fact containing four elements while *This adjoins that* is a dyadic fact containing three elements, we shall say that they have the same form. (3) The 'elements of a sentence' are its constituents, while the elements of a fact are its elements. (4) The 'arrangement (e.g., spatial) of a sentence' is the relating of its constituents in a certain order while the arrangement (formal) of a fact is the tying of its elements in a certain order. (5) Neglecting such words as 'is' in "This is red", and 'is' and 'of' in "Bob is father of Bert" we may say: (a) that the first word of a sentence made from two words (and therefore one-termed in the sense defined for sentences but two-termed as a fact) is the 'subject' of the sentence while the second word is the 'component' of the sentence; (b) that the first word of a sentence made from three words is 'referent' of that sentence, the second 'component' and the third 'relatum'; (c) and so on to n -worded sentences.

(iii) *The sense in which sketching is analysable*.—In the first instalment of this paper I claimed to analyse "‘aRb’ sketches aRb", e.g., "‘This adjoins that’ sketches *This adjoins that*'." And so I did in a sense. But in a sense I did not, because in a sense sketching is unanalysable. "‘aRb’ sketches aRb" cannot be conjunctively analysed, but it can be analysed in the sense that its *make-up may be unfolded*. Attempts at conjunctive analysis will be found to be either inadequate or redundant.

Thus, first suppose I write: "‘aRb’ sketches aRb" means "(1) 'R' is between 'a' and 'b'; (2) aRb; and (3), (1) sketches (2)"; e.g., "‘This adjoins that’ sketches *This adjoins that*'" means "(1) 'Adjoins' is between 'this' and 'that'; (2) This adjoins that; (3) The first of these facts sketches the second." In this case, if I were to omit (3), my translation would be in-

¹ 'Between' is not quite the word because the relation between has not a sense or direction so that its relating the constituents 'a', 'R', and 'b' of a sentence cannot intimate an arrangement, i.e., aRb rather than bRa. The fact that 'a' 'R' and 'b' are written in that order from left to right might intimate an arrangement. But then *right of* involves a fourth term, say the speaker's body. I shall neglect this in this paper and shall use 'between' in such a way that 'R' is between 'a' and 'b' shall imply 'b' is right of 'R' which is right of 'a'. In the case of spoken sentences the difficulty does not occur because, if 'R' is after 'a' and 'b' after 'R' in point of time, then they are not related by that relation in the reverse order.

adequate. But if I keep (3), my translation is redundant; for (3) includes (1) and (2). On the other hand, though my trio of sentences is redundant, it is useful. For by writing out the trio I draw your attention first to one *part* of what was conveyed by the original and then to another *part*, and finally to a point not separately expressible—a relationship between the two *parts*. Similarly: “This is red | because | This is hot” unfolds the make-up of *This is red because it is hot*.

Secondly, I cannot translate “‘*aRb*’ sketches *aRb*” by “(1) The form of ‘*aRb*’ shows the form of *aRb*, and (2) The elements of ‘*aRb*’ specify the elements of *aRb*.” Such a translation would be inadequate. For (1) and (2) do not tell us whether the arrangement of ‘*a*’ ‘*R*’ and ‘*b*’ is or is not a guide to the arrangement of *a*, *R* and *b*. But if I add a third clause—“(3) The arrangement of ‘*aRb*’ exhibits the arrangement of *aRb*” my translation is redundant; for I cannot convey the arrangement of the elements of a fact, that is how its elements fall into its form, without conveying what these elements are and what the form is. On the other hand, my trio of sentences again unfold the make-up of the relationship expressed by “‘*aRb*’ sketches *aRb*”. For (α) the trio draws your attention first to one *section* of the sentence ‘*aRb*’—its form, then to another—its elements, and then to a not separately expressible point about it—the arrangement of its elements; and (β) the trio draws your attention first to a relation between the form of ‘*aRb*’ and a similar section of *aRb*, then to a relation between the elements of ‘*aRb*’ and those of *aRb*, and finally to a not separately expressible point about the relation between ‘*aRb*’ and *aRb*. Similarly, I may unfold *This reflects that* by saying “The shape of this reflects the shape of that, the colour of this reflects the colour of that, and the arrangement of the colours in this reflects the arrangement of the colours in that”. To convey the arrangement of a fact is to convey a further point about it, but a not separately conveyable point; similarly, if I add “Bob was moving rapidly” to my statement “Bob was moving” I convey a further point about Bob, namely his speed, but one not separately conveyable. And, if I add “The rate at which Bob is moving is the rate at which Bert is” to my statement “If Bob is moving Bert is”, I certainly convey a further point about the relationship between the movement of the one and the movement of the other, although this further point is not separately conveyable. Similarly, if I add “(3) The arrangement of ‘*aRb*’ exhibits the arrangement of *aRb*” I convey a further not separately conveyable point.

Sections are not independent and complete facts like the *parts* of facts.¹ They are embryonic facts. And just as an embryonic dog is not a kind or species of dog but only a dog at all in the sense that it will be a dog, so embryonic facts are not a species of fact (in the sense of 'fact' to be defined, and applicable only to independent and complete facts) but only facts in the sense that they have a characteristic relation to fundamental facts.²

The sections of a fact F are of at least two kinds: (1) *Degenerates*—obtained by omitting one or more of the elements of F, e.g., *Something adjoins that, Something adjoins something, Something something something* (i.e., *There is a two-termed fact*)—are a series of degenerates from *This adjoins that*. (2) *Indeterminates*—obtained by substituting an indeterminate form of the component of F, e.g., *This is jadish, This is light green, This is green, This is coloured* are all indeterminates of *This is jade*. Determinates are of two kinds: (1) *Fusings*—obtained by fusing an indeterminate statement about a character with a further not separately expressible point about that same character, e.g., *jade* (in hue) is a fusing of *jadish* (in hue) with a further point about hue. (2) *Blendings*—obtained by blending an indeterminate statement about one character with an indeterminate statement about another, e.g., *This is of hue, H, and brightness, B*, is a blending from (α) *This has H*, and also from (β) *This has B*.³

The connexions between the sections of a fact cannot, of course, be represented by 'and', i.e., writing one after another. As Mr. Mace proposes, we might write one on top of another, and this would admirably bring to mind the connexions between them.

I. SKETCHING AND INDICATING.

(i) *The Sections*.—Those sections of a sentence S and a fact F between which the relations which make up sketching hold may

¹ I observe that this adjoins that contains both a part—the dyadic relationship *this adjoins that*—and a section I observe that . . . Some triadic relationships contain such independent dyadic parts and some such as judgement and donation do not. "Do sense-data literally have the qualities they sensibly seem to me to have?" is not the question whether *sensibly seeming to have* is triadic because it is obvious that it is. It is the question whether *sensibly seeming to have* contains an independent dyadic part or not.

² Sections are later persuaded to vanish into sentences indicating facts in the fundamental sense. "Something is red is a general fact" means "'Something is red' indicates but does not sketch a fact (fundamental sense of 'fact', i.e., atomic fact)." But I cannot get rid of general *judgements* which have to be recognised as *incomplete* mental facts, e.g., Bob's judgement that Bert beat something is the fact *Bob judges Bert beat* . . .

³ See Langford, MIND, N.S. Vol. xxxviii. No. 152, p. 443.

be called the form, the material and the arrangement of S and F. The form of S is the section *There is a fact with n elements*, where n is the number of elements in S. The material of S is the section *There is a fact with elements 'a' 'b' and 'R'*, where these are the elements of S. The arrangement of S is the fact *There is a fact with 'a' as referent, 'R' as component and 'b' as relatum*, where these are the places 'a', 'R' and 'b' take in S. Similarly for F. It is clear that the arrangement of a fact is equivalent to that fact. And the arrangement of S exhibits the arrangement of F is equivalent to S sketches F. The last sentence in an unfolding of make-up should be equivalent to the one unfolded, e.g., *He moved very rapidly* is equivalent to *He tore*.

(ii) *The Relations between the Sections of S and F*.—Suppose we have a language with the following conventions: (a) *Identity of Form Convention*. If anyone uses a sentence with n elements then he shall be understood to be claiming that there is a fact with n elements. (b) *Vocabulary*. (1) If anyone uses a sentence with 'this' as an element, then he shall be understood to be claiming that there is a fact with *this* as an element. (2) If anyone uses a sentence with 'red'¹ as an element then he shall be understood to be claiming that there is a fact with *red* as an element. For short write (2) thus—'red' is a specifier of *red*. (Do not in your mind substitute some familiar word, such as 'stands for' for 'specifier of'. The association of the familiar word may mislead.) Similarly write—(3) 'adjoins' is a specifier of *adjoins*. (4) 'That' C_S *that*. (5) 'Thet' C_S *thet*. (6) 'Thit' C_S *thit*. And so on. Call these words, in virtue of the fact that each has C_S to something, *specifiers*. (c) *Identity of Order Convention*. If anyone uses a sentence with specifiers arranged in a certain order he shall be understood to be claiming that there is a fact in which the things they specify are arranged in that same order. Say that a character C of a sentence S is *conventionally connected* with a character C' of a fact F if there is a convention that when anyone uses a sentence with C he shall be understood to be thereby claiming that there is a fact with C', e.g., *having two elements* is linguistically connected with *having two elements*. (d) *Supreme Convention*. If anyone uses a sentence in which are *combined* characters $C_1 \dots C_n$ linguistically connected with characters $C'_1 \dots C'_n$, then he shall be understood to be

¹ There is the same kind of ambiguity about 'word' as there is about 'sentence'. By "the word 'red'" I mean "any mark similar to the mark I am about to make here on this page—red". And I say that I write the same word twice if I write—red red.

claiming that there is a fact or facts in each of which C_1 ... C_n are combined.

One fact may differ from another in form, e.g., *This is red* from *This adjoins that*. And one fact may differ from another more or less in elements, e.g., *This adjoins that* differs completely in elements from *That encloses that*; *This adjoins that* differs little in elements from *That adjoins that*. One fact may differ from another in arrangement, e.g., *This adjoins that* differs from *That adjoins this*. But one fact can have no other internal difference from another; in other words, no two facts can agree both in form, elements and arrangement. Hence if a person tells us of the form, elements and arrangement of a fact we shall say that he has *precisely located it*. If he tells us some of these things but not all we shall say that he has *partially located it*.

Suppose that, with the above language, I wish to locate one of the following facts: *This is red*, *This adjoins that*, *That adjoins this*, *This adjoins that*, *That adjoins that*, *That adjoins this*, *That encloses that*. Suppose I write "*This adjoins that*" according to the conventions above, then I precisely locate *This adjoins that*.

Suppose that I omit 'This' from "*This adjoins that*" and leave the gap; or fill it, but with a mark which does not specify but merely emphasizes that the sentence contains a gap: I write perhaps "... adjoins that" or "Something adjoins that". (Similarly, seeing that Henry pointed but not at what he pointed, I may utter an incomplete sentence "Henry pointed" or "Henry pointed ..." or "Henry pointed at something".) "Something adjoins that" partially locates *This adjoins that* and *That adjoins that* and only these. "Something adjoins something" on the other hand, has a still wider range, and partially locates all the facts above except *This is red* and *That encloses that*. "Something something something" (i.e., There is a two-termed fact) has a still wider range, and partially locates all the facts above except *This is red*, which is one-termed. "This exists," which may be written: "... this" or "... this," partially locates all facts of whatever form provided they contain *this* as an element.

Thus we have definitions as follows:

1. "F is the fact or one of the facts *located* by S" means "F combines all those characters which are linguistically connected with characters of S".

2. "The possession by F of C' is intimated by the possession by S of C" means "(i) F has C'; (ii) S has C; (iii) C and C' are conventionally connected; (iv) F has all characters linguistically connected with characters of S . . . , (i.e., F is located by S)". The last clause prevents our having to say that "*This adjoins that*"

intimates the form of "Thet encloses that". But for (iv) we should have to say that it intimates the form of any fact whose form was linguistically connected with it and therefore any two-termed fact.

3. "The form of S shows the form of F" means "The form of S intimates the form of F and does it according to the convention: If anyone uses a sentence with n elements he shall be understood to be claiming that there is a fact with n elements". *E.g.* The two-termedness of "This adjoins that" intimates the two-termedness of *This adjoins that* and intimates it according to the *identity of form* convention; hence it shows it. "The form of 'This adjoins that' is being used by you now to show the form of *This adjoins that*" means "By using a sentence with the number, two, of terms which 'This adjoins that' has, you are according to linguistic convention claiming that the fact having the other characters, if any, conventionally connected with characters of your sentence, has two terms, and *This adjoins that* is such a fact". Your sentence, though identical in form with *Thet adjoins that* does not show its form, since this fact does not contain *this* and hence lacks a character linguistically connected with a character of your sentence.

4. (a) "S completely sspecifies¹ F" means "The elements of S completely specify the elements of F", i.e., "There is no element of F unspecified by any element of S". "N in S is specifying E in F" means "The presence of N in S intimates the presence of E in F according to the vocabulary convention: If anyone uses a sentence containing N then he shall be understood to be claiming that there is a fact containing E". "This adjoins that" completely sspecifies *This adjoins that*.

(b) "The elements of S incompletely specify the elements of F" means "Some but not all the elements of F are specified by elements of S". *E.g.*, "This adjoins something" incompletely sspecifies *This adjoins that* and also *This adjoins that*. We must not say that "This adjoins something" incompletely sspecifies any fact which contains *this* and *adjoins*; for its containing 'This' is intimating the presence of *this* only in those facts which have also all other characters conventionally connected with characters of it. Now *That adjoins this*, for example, almost satisfies this condition for it not only contains *this* and *adjoins*, but also it is two-termed. But it does not quite satisfy

¹ Note that I always use "sspecify" (with double *s*) for the relation here defined between a *sentence* and a *fact*, confining "specify" (with single *s*) to relations in which either the referent or the relatum (or both) is an *element* or class of *elements*.

the condition ; for "This adjoins something" intimates that *this* is referent. Now *this* is relatum in *That adjoins this*.

(c) "The elements of S completely incompletely specify F" means "(i) None of the elements of F is specified by an element in S but (ii) S locates (partially) F". It is important to add clause (ii) for otherwise we should have to say that "Something something something" completely incompletely specifies not merely any two-termed fact but any fact whatever.

[Before we pass to exhibiting there are two points about specifying which are worth noticing. First it is important to distinguish between "The word 'red' is a specifier of *red*" and "The mark 'red' in 'This is red' specifies or is specifying *red* in *This is red*". The first is about the word 'red' (*i.e.*, all marks similar to 'red') and implies that if any sentence were to contain that word then the fact that sentence would locate would contain *red*. The second is about a particular mark, and implies that some one is uttering a sentence and in that sentence using that mark to intimate the presence of *red* in the fact the sentence is locating.

Similarly, *Two-termedness* is a shower of *two-termedness* is different from *Two-termedness* is showing (in some sentence) *two-termedness* (in some fact). The former is a statement of a convention deduced from the form convention. The latter is a manifestation of the deduced convention.

We shall see later that *N is a placer of E* is similarly different from *N in some sentence is placing E in some fact*.

Second, it is worth noticing that specifying is one-to-one for the elements of a given sketch and the fact it sketches, *i.e.*, no element in the sketch specifies more than one element in the fact, and no element in the fact is specified by more than one element in that sentence. This one-oneness of *specifying* for a sketch and its fact is not entailed by their identity of form, but by the nature of *specifying* plus that identity of form. If the presence of *N* in *S*, together with linguistic conventions, entails that either *E* or *E'* is present in *F* but *not which*, we must not say that *N* in *S* specifies *E* in *F*. Also, if the presence of *N* in *S* together with linguistic conventions entails not only that *E* is present in *F* but also that *E'* is, then we must not say that *N* in *S* specifies *E* in *F* but only that the presence of *E* is *part of* what the presence of *N* intimates. Hence no element in a sentence specifies more than one element in the fact it sketches. Hence every element in *F* is specified by a different element in *S*; and since, if *S* sketches *F*, there are no more elements in *S* than there are in *F*, each element in *S*, when *S* sketches *F*, is specified by only one element in *S*.

If a mark names, it specifies; hence naming is one-one for a given sketch and the fact it sketches.]

5. (a) "The arrangement of S completely exhibits the arrangement of F" means "The relation of the elements of S to the form of S intimates the relation of every element in F to the form of F according to the convention: The order of the specifiers in a sentence is the order of what they specify in the fact it locates", e.g., "This adjoins that" completely exhibits the arrangement of *This adjoins that*.

Identity of order entails identity of form. Hence if every order is conventionally connected with identical order, every form is thereby conventionally connected with identical form. Hence exhibiting entails showing.

(b) "The arrangement of S incompletely exhibits the arrangement of F" means "The arrangement of the elements of S intimates for some but not every element of F its relation to the form of F according to the convention: The order of the specified is the order of their specifiers". E.g., "Something adjoins this" incompletely exhibits the arrangement of *That adjoins this*, and "Something adjoins something" still more incompletely exhibits it. It is clear that the degree of exhibition depends upon the degree of specification.

(c) "The arrangement of S completely incompletely exhibits the arrangement of F" means "No element in F has its place in F exhibited by S, but S shows the form of F". E.g., "Something something something" completely incompletely exhibits the arrangement of *That encloses that* or any two-termed fact, but not the arrangement of *This is red* or any non-two-termed fact. "Something something something" obeys the identity of order convention though it contains no specifiers. It also serves, though it only stands and waits.

We may now unfold *sketching* and indicating: S sketches F if and only if, (i) the form of S shows the form of F (ii) the elements of S completely specify the elements of F (iii) the arrangement of S completely exhibits the arrangement of F. E.g., "This adjoins that" is a sketch.

S materially indicates F if and only if, (i) the form of S shows the form of F (ii) the elements of S incompletely specify the elements of F (iii) the arrangement of S incompletely exhibits the arrangement of F. E.g., "Something adjoins something" is a material indicative.

S formally indicates F if and only if, it shows its form, completely incompletely specifies its elements, and completely

incompletely exhibits its arrangement. *E.g.*, "Something something something" is a formal indicative.¹

(iii) *Names and Hiatuses*.—Consider the functions of 'This' in "This adjoins that" and in "This adjoins something". It (i) plays its part in showing the form of the fact located by the sentence in which it is an element (ii) specifies *this* and (iii) *places this*. *N in S places E in F* is easily defined. For from the order convention, *viz.*, *the relation of a specifier to the form of its sentence is the relation of what it specifies to the form of its fact, i.e., the place of a specifier is the place of what it specifies*, together with vocabulary conventions *N₁ is a specifier of E₁, N₂ is a specifier of E₂ . . . , N_m is a specifier of E_m*, we may deduce a set of *place-conventions* as follows: (1) If a sentence locates a fact and N₁ is an element of the sentence, then E₁ takes that place in the fact which N₁ takes in the sentence; (2) If a sentence locates a fact and N₂, etc. We can now define *N in S is placing E in F* by (a) N is an element in S (b) S locates F and (c) N is connected by an identity-place-convention with E. Briefly, *N in S places E in F* means *The place of N in S intimates by a place-convention the place of E in F*. In such a case, if N is referent then E is referent, and if N is relatum then E is relatum, and if N is component then E is component, and so on for all forms of fact.²

'This', then, in "This adjoins that" performs three functions; for it (i) plays its part in showing the form of *This adjoins that*, (ii) specifies *this* in *This adjoins that*, and (iii) places *this* in *This adjoins that*. And 'adjoins' and 'that' have a similar trio of functions; they are all *names*.

If we like we can unfold what "S sketches F" expresses by writing "Every element of S (i) plays its part in showing the form of F (ii) specifies an element in F and (iii) places that element in F." Briefly—When S sketches F then every element in S names an element in F.

Consider now the functions of 'Something' in "Something adjoins that" when that sentence indicates *This adjoins that*. Like the sketch, the indicative shows the form of *This adjoins*

¹ After writing about incomplete specifying and hiatuses I received from Dr. Paul Weiss a copy of his article on the Metaphysics and Logic of Classes (*Monist*, January, 1932). From this it is clear that Charles S. Peirce introduced . . . *is red* into modern logical thought. He calls it a "rhemta." Having started (foolishly) without studying Paul and Peirce I decided to finish before doing so. Hence I cannot say how far I repeat what they have said.

² Like 'specifier of' and 'specifying', 'placer of' must be distinguished from 'placing'.

that, the fact they both locate. In consequence (i) 'Something' must, like 'This', play its part in showing this form. But, unlike 'This', 'Something' does not (ii) specify an element in *This adjoins that*, and in consequence it does not (iii) place an element in *This adjoins that*. Let us call an element of a sentence which has a purely formal function in the way that 'something' has in this example a *hiatus*. "H in S is a hiatus for E in F" means "(a) (i) H plays its part in showing the form of F, but (ii) does not specify an element in F, and (b) E happens to take the place in F which H takes in S".

When a hiatus is referent what it hiatuses is referent, when a hiatus is relatum what it hiatuses is relatum. In consequence it might be thought that a hiatus places what it hiatuses. But this would be a mistake. Consider the case above where 'Something' in "Something adjoins that" hiatuses *This* in *This adjoins that*. True, the place of 'Something' in this particular sentence is the same as the place of *this* in the fact the sentence locates, and we should not say that 'Something' hiatuses *this* unless they were identically placed. But there is no place-convention with regard to 'Something' to the effect that for any sentence and any fact if the sentence locates the fact and contains 'something' as referent then the fact will contain *this* as referent. From "This adjoins that" together with the conventions of our language we can deduce *There is a fact with this as referent*. But no such deduction can be made from "Something adjoins that".

When a sentence contains only one hiatus and that as referent, then we can deduce from the character of the sentence and the conventions of our language that the unspecified element in the fact it locates is referent in that fact. But we cannot deduce what that element is; therefore we can deduce no fact of the form *This will be referent*. In other words, such a sentence fixes with zero degrees of freedom the place of the unspecified element in the fact it locates, but does not exhibit the place of that element. (Similarly, from a page of theatre bookings I may deduce that the next and last person who books will have the worst place; but I cannot deduce who he will be.) Hence, to say that 'Something' in "Something adjoins that" places *This* in *This adjoins that* is to confuse *placing* with *contributing to fixing the place of with zero degrees of freedom*. This distinction may be seen as follows: If S intimates that F has n elements, and specifies at least m of these, and is subject to the identity of order convention, then S exhibits the places of m of the elements of F. And thus, since it intimates that F has not more than n places, limits to $n - m$ the places free to the remaining elements in

S, *i.e.*, the character of S, together with linguistic conventions, entails that each of these remaining elements takes place p_1 or p_2 or p_{n-m} , *i.e.*, fixes with $n - m + 1$ degrees of freedom the place of each remaining element in F. For example, "Something adjoins something" entails that each element other than *adjoins* in the fact it locates is either referent or relatum, and thus fixes with one degree of freedom the place of any element other than *adjoins*—say *this* or say *that*. Hence, S fixes with zero degrees of freedom the place of E in F means (i) S together with linguistic conventions entails *Something or other takes place p in F*, where 'p' specifies a place, *e.g.*, referent, and (ii) in point of fact, E takes that place. On the other hand, if S exhibits the place of E in F, then S, together with linguistic convention, entails E *takes place p in F*, *i.e.*, entails *both* that something or other takes *p* and that E does it.

Now S could not limit at all the places free to elements of F unless it limited the possible places in F, *i.e.*, intimated the form of F. Further, S could not limit to less than the number of possible places in F the places free to certain elements in F without showing the form of F. For S cannot limit the places free to E, an element of F, to less than the possible places in F, unless it intimates that some of these possible places are already occupied, *i.e.*, exhibits the places of some elements other than E in F; and S cannot exhibit the place of an element of F without intimating the form of F.¹ The intimating of form, therefore, is doubly necessary to fixing with this or that degree of freedom the places of the elements of F. Hence, every element 'E' of an ostensive sentence, S, contributes to this fixing. For every element of S contributes to the showing of the form of F and thus (α) to the limitation of the possible places in F, and also (β) if S contains elements, other than 'E', which specify, to the exhibiting by S of the places of some of the elements of F other than E, where E is the element named or intimated by 'E'. Now, if 'E' is a name, it further (a) places E and thus (b) further contributes to the fixing of the places free to other elements of F. On the other hand, if 'E' is a hiatus, although because it plays its part in showing the form of F it performs functions (α) and (β), yet because it does not specify it fails to perform functions (a) and (b).

We may say therefore that these three points about a hiatus, namely, (1) its contribution to incomplete or completely incom-

¹ E is referent is comparable to E is captain (in a cricket team) and not to E is the winner. Captain limits to eleven, but the number of runners might be anything.

plete exhibition, and (2) its consequent contribution to fixing with this or that degree of freedom the places open to the (or an) unspecified element in the fact located, and (3) its *not* placing an element in the fact located, follow from its definition. For by definition it contributes to showing but does not specify.

It is clear that we may unfold "S indicates F" by writing "Each element of S is either a name or a hiatus for an element in F and at least one is a hiatus." Or again by "S locates F, and every element in S is either a name or a hiatus".

Hence we may unfold sketching (or indicating) in either of two ways. We may proceed *horizontally*, i.e., unfold in terms of characters of the sentence, namely *showing*, *sspecifying*, *exhibiting*; or *vertically*, i.e., unfold in terms of the characters of the elements of the sentence, namely *playing-its-part-in-showing*, *specifying*, *placing*. It is clear that *showing* is more fundamental than *playing-its-part-in-showing*. And that *specifying* is more fundamental than *sspecifying*. Because in *exhibiting* and *placing* both are blended, *placing* is not more fundamental than *exhibiting*, nor *exhibiting* more fundamental than *placing*.

	1st Vertical Section.	2nd Vertical Section.	3rd Vertical Section.
1st Horiz.	There is a fact with an element intimates that There is a fact with an element	and another element " " "	and another element " " "
2nd Horiz.	There is a fact with 'a' as element intimates that There is a fact with <i>a</i> as element	and 'R' as another element " R " " "	and 'b' as another element " b " " "
3rd Horiz.	There is a fact with 'a' as referent intimates that There is a fact with <i>a</i> as referent	and 'R' as component " R " " "	and 'b' as relatum " b " " "

(iv) *The Omission Series*.—A hiatus differs fundamentally from a name only in that it does not specify; in consequence, it does not place. A sketch differs fundamentally from an indicative only in degree of *sspecifying*; in consequence it differs in degree

of exhibiting.¹ If we start with any sketch, say "This adjoins that" and leave one gap or hiatus we have an indicative of the *first grade*, say "Something adjoins that". We may call changing a name to a hiatus 'omission'. If we omit in an indicative of the *first grade* we obtain an indicative of the *second grade*, say "Something adjoins something". When we omit in an indicative of the *second grade* we obtain an indicative of the *third grade*, and so on. When the number of the grade (which will equal the number of omissions) equals the number of elements (names) in the sketch from which we started then we have an indicative which completely incompletely specifies the elements of the fact it locates; it merely shows the form of that fact, and may be called a 'formal indicative,' e.g., "Something something something" is a formal indicative, and is equivalent to "There is a fact with three elements, i.e., a two-termed fact". If we start with a formal indicative and change hiatuses to names, we shall reach finally a sketch. We may call the changing of a hiatus to a name 'restoration'. Sketches, indicatives which specify in some degree, and indicatives which specify in no degree form a series of which sketches and indicatives which specify in no degree are the first and last terms. If we call all the sentences in these series 'ostensive' because they all intimate the form of the fact or facts they locate and all intimate it by showing, then we may speak of (1) complete ostensives which specify all of the elements of the fact they locate—sketches; (2) incomplete ostensives which specify some but not all of the elements of the facts they locate—material indicatives; (3) completely incomplete ostensives which specify none of the elements of the fact or facts they locate—formal indicatives.

If a sketch is in a state of grace, then indicatives fall more and more from grace by more and more sins of omission—their capacity for sinning in this way being limited only by the number

¹ Sketching is one to one. Indicating is $(C - 1)$ to one, where C is the number of combinations of $2n$ things taken n at a time, and n is the number of elements in the fact located. ($2n$ because each element may be named or hiatus.) 'Minus 1' is put in because of course one of the combinations is a sketch.

We have seen that naming is one-one because it involves specifying. Hiating is one-many, in the sense that *being a hiatus for* with its domain and co-domain confined to the elements of a given sentence and the elements of the facts it locates is one-many. E.g. 'Something' in "Something adjoins something" is a hiatus for *this* in *this adjoins that* and for *that* in *that adjoins that* but neither *this* nor *that* are hiatused by more than one element of "Something adjoins something"; each is hiatused by 'Something' and not also by 'something'.

of their elements. But this is not a departure from ostensiveness nor from Ostensiveness.

Besides *omission* there is *malformation*. By a slight extension of 'ostensive' we can call "This is red" and "Bert is taller than Bert" 'malformed ostensives'. They are malformed because strict identity of form is destroyed by such words as 'is' and 'than'. This is a departure from strict ostensiveness, but it is no *more* a departure from strict Ostensiveness—a sentence might be malformed and yet be Ostensive though a malformed Ostensive.

A language made up of such conventions as we took, and thus resulting only in sketches and indicatives, is an ostensive language for simple sentences. Before dealing with non-simple sentences, something must be said about a peculiar but illuminating class of sentences which reflect all that has been said and will be said in this paper (apart of course from what is said about *them*).

II. DESCRIPTIVES.

Instead of the identity of form and identity of order conventions we may introduce what may be called *formal vocabulary conventions* and *order vocabulary conventions*. Thus, instead of *showing* the two-termedness of a fact we wish to locate we may *say* that it is two-termed and write—"There is a two-termed fact". And instead of *exhibiting* the place of *This* in *This adjoins that* we may *say* "There is a fact in which *this* is referent".

A language with such conventions may be called *descriptive* because the sentences in which it results *describe* instead of *displaying* facts. Such sentences are *descriptive* sentences.¹

Suppose *S* an ostensive sentence, and $F_1 \dots F_n$ the fact or facts for which it is used. Then there is a *descriptive* sentence, *D*, which (1) intimates explicitly, or states, the form of $F_1 \dots F_n$, (2) specifies just those elements of $F_1 \dots F_n$ which *S* specifies, and (3) intimates explicitly the places of those elements in $F_1 \dots F_n$. ("*S*, a sentence, states that *F*" means "Anyone who uttered *S* would be stating that *F*".) For example, consider "This adjoins that," an ostensive in which each element specifies. We obtain an equivalent descriptive sentence by writing "There is a two-termed fact in which *this* is referent, *adjoins* is component, and *that* is relatum". Again consider "Something adjoins that" an ostensive in which one element is a hiatus. We obtain an equivalent sentence by writing "There is a two-termed fact in which something is referent, *adjoins* is component and *that* is

¹ See Langford, *General Propositions*, MIND, Oct., 1928.

relatum," *i.e.*, "There is a fact in which *adjoins* is component and *that* is relatum". Penultimately we have "Something adjoins something" equivalent to "There is a fact in which *adjoins* is component".¹

Ultimately we have "Something something something" equivalent to "There is a two-termed fact".

It will be seen from the above examples that descriptives specify the elements of the fact they describe either completely or incompletely or completely incompletely according as they are equivalent to sketches, material indicatives or formal indicatives. They may be incomplete, *i.e.* omit.

III. ACCOUNTS.

We must now speak of compound sentences (grammar book sense) with clauses, participles and conjunctions. With some of these we need not bother because they are just disconnected simple sentences written one after the other. We need consider only *accounts*, *i.e.*, compound sentences which not only locate a set of facts, but also intimate the identity or diversity of the elements in those facts. Thus "Something is red and something is round", is not an account, while "Something is red and it is round", *i.e.*, "There is a fact with *red* as component and a fact with *round* as component and the referent of the one is identical with the referent of the other", is an account. An account is *complete* when each sentence it contains is complete and *incomplete* when at least one sentence it contains is incomplete. *The set of facts located by a complete account* is the set of facts located by the sentences it contains. A set of facts is *one among the situations located by* an incomplete account if it is a *selection* from the set of facts located by the sentences contained in that account. A *selection* from the facts located by the sentences $S_1 \dots S_n$ is

¹ Sentences, whether descriptive or ostensive, which specify only one element are of two kinds—those for which the specified element is a constituent in the fact located and those for which it is component. Sentences of the first kind (*e.g.*, (1) "There is a fact in which *this* is referent", (2) "There is a fact with *red* as referent") are always true and trivial. Sentences of the second kind are sometimes false and often important, *e.g.*, "Fairies exist", *i.e.*, "There is a fact in which fairyhood is component" is doubtful and interesting. Sentences of the second kind are Instantials.

Some sentences specify without intimating form in any way, whether by showing or by stating. "This exists", *i.e.*, "This is real", *i.e.*, "... this ...", *i.e.*, "There is a fact in which *this* is an element" is such a sentence. These sentences are always true and trivial even when 'real' is spelt with a capital 'R'. Consequently only philosophers ever dream of using them.

defined thus—In the case of each of $S_1 \dots S_n$ take just one of the facts it locates. Then the set of facts so obtained is a *selection* from the facts located by $S_1 \dots S_n$.

A set of sentences is an *ostensive* set when each is *ostensive*. Hence a set of sentences is an *ostensive account* when (1) each is *ostensive*, and (2) together they intimate the identity and diversity of the elements in the facts they locate. Hence an *ostensive account* must be identical in structure with each of its situations.¹ Hence in an *ostensive account* (a) each sentence must be identical in form with the fact it locates, and (b) identity (or diversity) of specifiers or hiatuses must accompany identity (or diversity) of the specified.²

Accounts may be incomplete. They may also be malformed by failing to exactly fulfil conditions (a) or (b) or both above. Quite often they are very malformed.

(i) *Complete Accounts*.—Clearly if two or more sentences completely specify what are the elements in the facts they locate, then *à fortiori* they intimate the identity or diversity of those elements. No new linguistic convention is required to guarantee this. But sometimes for the sake of brevity such accounts sacrifice identity of structure. Thus, by telescoping "This is red" and "This is round" we have "This is red and round," which equally intimates identity of subject but does not preserve identity of structure. In consequence, the sentence is not perfectly *ostensive*, but this is not to say that it is non-*Ostensive*.

(ii) *Incomplete Accounts*.—These even more often than complete accounts are imperfectly *ostensive*, and this for two reasons. First, unlike a set of complete sentences, a set of incomplete sentences will not intimate identity and diversity of elements unless a new convention is introduced. Now in ordinary languages identifying and diversifying clauses are the devices often used to meet this difficulty. And such clauses destroy identity of structure. Thus, when we have only to intimate that the same thing is the subject of two facts, telescoping of the kind we have already noticed in the case of "This is red and round" enables us to intimate what we want by writing "Something is red and round". But often we use an *identifying clause* and write "Something is red and something, *the same thing*, is round". Neither of these devices preserves identity of structure.

¹ See note on Identity of Structure, MIND, April, 1931.

² Identity of specifiers is not essential if we have a redundant vocabulary, *i.e.*, more than one specifier for the same thing. It is assumed in this discussion that vocabularies are not redundant.

And when we have to intimate that the subject or referent, say, of one fact is other than the referent, say, of another, we often use a *diversifying clause*. For example, we say, "Something struck him on the head and something *else* struck him in the back". Here 'else' is the diversifying clause, and cannot be understood without reference to the preceding sentence. "Two things are red" may be re-written "Something is red and something, else, is red". These clauses destroy identity of structure. Sometimes we may preserve identity of structure by using 'one' and 'another', *e.g.*, "One struck him on the head and another struck him in the back". But no such device is provided for cases in which three or more things are involved. There is of course the relative pronoun, and it enables us to preserve identity of structure, but then it is very apt to be ambiguous. Thus, in "The coroner checked him and said that he had always been careless with firearms" 'he' might hiate the coroner, the witness or the deceased. It is the ambiguity of 'he' 'her' and 'it' which makes us fall back on identifying and diversifying clauses, such as 'the same', 'else', 'the former', 'the first', 'the second', 'the third'. For example, we say "A certain man had three sons. And he gave to the first his house, to the second his ass and to the third his cat."

Sometimes when the situation is very complicated we fall back on the letters of the alphabet. We may write "A certain man had three sons (x , y , and z). To x he gave his house, to y his ass, and to z his cat." This device enables us to preserve identity of structure.

The letters of the alphabet are so convenient for intimating structure because they are hiatuses with an identifying and diversifying function. Ordinary language is inconvenient for the intimating of structure because it possesses only one hiatus, namely 'something', and in consequence does not possess hiatuses with an identifying and diversifying function. For a set of incomplete ostensives will not intimate the structure of a situation unless we have hiatuses with an identifying function, and we cannot have these unless a certain new convention is introduced. Now this convention is one we cannot have unless we have several dissimilar marks, such as ' x ', ' y ' and ' z ', as hiatuses. For the convention required is: (a) If in any two sentences the same (*i.e.*, a similar) hiatus appears, then what it hiatuses in the fact located by the one is what it hiatuses in the fact located by the other. (b) If in any two sentences two different hiatuses say ' x ' and ' y ', appear then what ' x ' hiatuses in the fact located by the one is not what ' y ' hiatuses in the fact located

by the other. It follows that if two sentences have the same hiatus as referent, then the two facts they locate have the same referent, while if two sentences contain the same hiatus but in different places then the facts they locate contain the same element but in different places.¹ With these conventions we might re-write the particular affirmative "Something red is round" by writing "(1) x is red, and (2) x is round", where the use of ' x ' in both sentences intimates that the subject of the fact indicated by the one is the subject of the fact indicated by the other. "Three things are red" may be written "(1) x is red and (2) y is red and (3) z is red", where the use of ' x ' in one sentence, ' y ' in the second and ' z ' in the third intimates that the subject of the fact indicated by one is other than the subject of the fact indicated by another.² By this simple device we can easily re-write clumsy efforts at intimating identity and diversity in such a way as to preserve the identity of structure between incomplete accounts and their situations.

These defects in the ostensiveness of accounts in ordinary languages, due to the inadequacy of ordinary devices for intimating identity and diversity, may, then, be removed by the introduction of a set of identifying and diversifying hiatuses and avoiding the compressing of accounts. And these defects are malformations, not non-Ostensiveness.

Secondly, incomplete accounts are often malformed, not merely because of the defects just considered, but also because they contain unfortunate shorthand arrangements for locating in one sentence not merely one or more connected positive facts but also connected negative facts. Universal accounts, sentences of the form "Everything which has ϕ has ψ ", and singular accounts, sentences of the form "The thing which has ϕ has ψ ", have these latter defects.³

¹ If we use identifying and diversifying hiatuses, then hating with its domain confined to the elements of a given set of sentences and its co-domain to the elements of a selection from the set of facts indicated by these sentences is one-one, *i.e.*, each hiatus hiates only one thing and *vice versa*.

² All 'adjectival' words for integers, *e.g.*, "I have two pennies" are shorthand devices for hiatuses in this way. The analysis of 'noun' uses of words for integers, *e.g.*, "Two plus two equals four", is more difficult.

³ Universal and singular indicatives could not be conjunctively translated without the use of the identifying function of the names of their components. On the other hand they can be translated into compound sentences not joined by identifying devices of the hiatus type, *e.g.* "The thing which is red is round" = (1) "Something red is round and (2) It is not the case that two things are red". In this respect they are more analysable than particular affirmatives which cannot be translated into sentences unjoined by an identifying device.

To define a universal sentence we require the conception of the denial of a sentence. The *denial* of S is the sentence "It is not the case that S". In terms of this we may define the *negative*¹ of the particular affirmative "Something has ϕ and it has ψ " as the sentence "Something has ϕ and it is not the case that it has ψ ", i.e., "Something has ϕ and not ψ ". Finally we write: A universal affirmative is made up of (1) a particular affirmative joined by 'and' to (2) the denial of the negative of that particular affirmative. Thus "Everything which is red is round" can be translated "(1) x is red and x is round, and (2) it is not the case that y is red and y is not round", i.e., "(1) There are two facts with a common referent and *red* as a component in the one and *round* as a component in the other, and (2) there are not two facts with a common referent and *red* as the component of the one and *not round* as the component of the other."

To define a singular affirmative account we need a convenient word for a conception we have already—call 'x is red and y is red' the *repetition* of 'x is red'. Then we can define a singular affirmative as a sentence made up of (1) a particular affirmative joined by 'and' to (2) the denial of the repetition of the first conjunct of the particular affirmative. Thus the compressed singular affirmative "The thing which is red is round" can be translated "(1) x is red and x is round, and (2) it is not the case that y is red", i.e., "(1) There are two facts with a common referent with *red* as component in the one and *round* as component in the other, and (2) it is not the case that there are two facts with diverse referents and *red* as the component of each."

Allowing for the clumsy denial constant 'It is not the case that' we may say that the uncompressed forms of universals and singulars are identical in structure with the situations they locate.² Hence the compressed forms are not. The compressed forms are malformed in two ways: (1) They contain particular affirmatives and employ the objectionable 'which is . . .' construction for intimating identity of referent. (2) 'Everything'

¹ The denial of S must of course be distinguished from the negative of S, if S has a negative. *Something red is not round* entails *Something is red* but *It is not the case that Something red is round* does not.

² A denial does not locate a fact in the sense in which an affirmative does and consequently sentences containing denials do not. This is the sleeping dog *negation* and we hurry past saying "D, a denial, is identical in structure with the fact it locates" means "The affirmative of which D is a denial would be identical in structure with the fact it would locate". As to what facts make up the situation located by, say, a universal, that is a problem we must for the present leave unsolved.

and 'the thing' do not function merely as hiatuses, they also function as shorthand devices for adding a suitable denial to the particular affirmative. Everybody understands these arrangements quite well, and consequently universals and singulars do not prevent people seeing the structure of their situations. Even if their defects did prevent people seeing clearly the structure of situations by preventing them seeing clearly the parts and inter-relations between the parts of the situations this would be a different thing from preventing insight into the Structure of those parts. The introduction of identifying and diversifying hiatuses and elongation into uncompressed forms with a separate sentence for separate facts removes malformation. Ostentation, a far more difficult process, is required to remove non-Ostensiveness.

IV. IMPERSONATIONS.

We come now to a kind of account which combines (a) the sin of omission committed by indicatives and incomplete accounts, and (b) the peccadillos in the matter of identity of structure committed by the accounts we have just considered with (c) a pretence of doing neither. This is bad of course, but it is not to be identified with non-Ostensiveness.

These accounts are those in which the subject-phrase is a name and yet is equivalent to a descriptive phrase.¹ By 'equivalent to a descriptive phrase' I mean that there is a descriptive phrase such that if that descriptive phrase were put for the name in the sentence in which the name occurred without any other alteration being made in the sentence, then the new sentence would express precisely what the old did. For example, suppose that "God forgave him" expresses precisely what "The supreme being forgave him" expresses, and suppose that "Waverley is good" expresses precisely what "The book called 'Waverley' is good" expresses, and that "Fordingbridge is a pleasant place, I understand" (as used by some one who has never been there) expresses just what "The place called 'Fordingbridge' is a pleasant place, I understand" expresses.² When such a simple substitution of a singular descriptive phrase for a name is possible the original sentence containing the name does not merely fail to make obvious the structure of the situation it locates, it may

¹ Descriptive phrases are the subject phrases of particular, universal and singular affirmatives.

² Two sentences express the same fact when they locate equally precisely the same fact, Def. "S expresses the fact that Bob hurt Bert" means "'S' and 'Bob hurt Bert' express the same fact".

mislead one as to this structure. For such a sentence (or account) is (1) more defective in its identifying device than its equivalent singular account because it does not employ even the unsatisfactory "which is" construction. "The thing which has ϕ has ψ " is nearer in structure to *This has ϕ and this has ψ and it is not the case that something other than this has ϕ* than is "N has ϕ ". (2) It again leads one to suppose that the structure of what it locates is simpler than it is because it does not employ even the ordinary 'The'—or—'Every' device for locating a connected negative. (3) It leads one to suppose that it more completely specifies the elements of the situation it locates than it does. Such a trio of defects in a sentence may be called *impersonation*.

In the next instalment impersonation will be compared with non-Ostensiveness, which cannot be removed by substitution of singular descriptive phrases without other alteration. Then we shall discuss how it is possible to say that "Fordingbridge is pleasant" does not specify any more the elements of what it locates than does "The place called 'Fordingbridge' is pleasant", and yet say that 'Fordingbridge' is a name and does specify Fordingbridge and not Calcutta. At present we may merely note that impersonation is a defect in identity of structure and completeness (of specifying), together with a certain deceptiveness, and thus involves a treble fall from that state of grace—sketching. But impersonation is not non-Ostensiveness. A sentence might impersonate and thus be an imperfect sketch, and yet be Ostensive and fail to be a Sketch no *more* than it fails to be a sketch.

SUMMARY.

"But" it may be asked, "why all this talk? Your ostensive sentences and accounts are simply ordinary sentences. Your *names* are just grammar book proper names, adjectives, prepositions and verbs; your hiatus is the indefinite article. Apparently you wish to hold that when you say tables are logical constructions you are remarking on a defect in table sentences. At first you called this defect non-ostensiveness. Now you prefer to call it non-Ostensiveness, or more exactly ostensiveness without Ostensiveness. May one ask what you have done towards making any clearer what this defect is?"

It is true that my ostensive sentences are ordinary. But "all this talk" about them has not been useless for the definition of logical constructions because :

1. Logical constructions are to be defined in terms of non-Ostensiveness, *i.e.*, ostensiveness-without-Ostensiveness-or-descriptiveness-without-Descriptiveness, *i.e.*, *speciousness*, *i.e.*, *secondariness*.

2. Non-Ostensiveness is defined in terms of the relations involved in ostensiveness. And these we have carefully examined.

3. Further, we are now able to say something about the ways in which non-Ostensiveness is not to be defined in terms of the relations involved in ostensiveness.

(a) Non-Ostensiveness is not to be defined as the departure from completely specifying ostensiveness which is produced by the introduction of the hiatus. Hence non-Ostensiveness is not to be identified with the sin of *omission* committed by indicatives (and incomplete descriptives).

(b) Non-Ostensiveness is not to be defined as departure from identity of form or structure—*malformation*. Hence the compressions and inadequate identifying and diversifying devices embodied in phrases of the form 'Something which has ϕ ', 'Everything which has ϕ ' and 'The thing which has ϕ ' do not involve any more non-Ostensiveness than they involve non-ostensiveness. These peccadillos may make a sentence slightly misleading as to structure, but a sentence may commit them and be equally slightly misleading as to Structure.

(c) Finally, non-Ostensiveness is not to be defined as the defect of *impersonation*, in which is combined omission with malformation and a pretence of doing neither.

(*To be concluded.*)

IV.—A CATALOGUE OF BERKELEY'S LIBRARY.

BY R. I. AARON.

It is not generally known to writers on Berkeley that there exists a catalogue, or at least what purports to be a catalogue, of his library. Apart from one article, which I wish to consider here, I have seen no other reference to it in Berkeleyan literature either at home or abroad. Yet it is clearly an important document which ought not to be neglected. I propose in this article, firstly, to describe the catalogue briefly; secondly, to consider certain claims made for it by the one scholar who has, so far as I know, discussed its importance; and, lastly, to estimate its value as a source of information in connection with Berkeley's reading.

We owe the existence of the catalogue to the lucky chance that the books were put up for sale by Messrs. Leigh & Sotheby on Monday, June 6th, 1796, and the five following days, and that a record was kept of the sale. This record was included in a volume of such records (11th Dec., 1795, to 11th June, 1796) bound by Messrs. Leigh & Sotheby and afterwards sold to the British Museum in 1848. It was first stocked in the Newspaper Room and remained there until 1914 when it was transferred to the North Library, where it now rests.¹ The catalogue of Berkeley's library was not itself catalogued at the Museum as a separate item under Berkeley's name until 1912. In this year the library officials realised the importance of the document and accordingly inserted it in the general catalogue.²

¹ Its present catalogue number is S.c.S. 28.

² No doubt, had it been inserted earlier, reference to it would have been made in Mead's admirable bibliography of Berkeley (*A Bibliography of George Berkeley*. *Univ. of California. Library Bulletin* 17, 1910). And A. C. Fraser would certainly not have missed this opportunity of learning something as to the contents of Berkeley's library. For the above information in connection with the history of the catalogue I have to thank the Superintendent of the North Library.

Twenty years have passed since the insertion and it is strange that so little notice of it has been taken.

The catalogue itself consists of forty-six printed pages, being a numbered list of 1613 books.¹ The name of each book is given, together with the place and date of the edition. These printed pages are pasted on to a larger page, and alongside each item is inscribed in ink the price secured and the name of the purchaser. The sale realised £324 15s. 9d. Two books fetched a considerable price, *viz.*, No. 424, *Statii Opera, Delph. 2 tom, Par. 1685* (£18 7s. 6d.), and No. 1543, *Ciceronis Epistolae ad Atticum, Brutum et Quintum Fratum, Venet. 1470*, a first edition (£6 12s. 6d.). The title-page opens in the following manner:—

A
CATALOGUE
OF THE
VALUABLE LIBRARY
OF THE LATE
RIGHT REV. DR. BERKELEY, LORD BISHOP OF
CLOYNE.

TOGETHER WITH THE

LIBRARIES of his SON and GRANDSON, the late Rev. GEORGE BERKELEY, D.D., PREBENDARY of CANTERBURY, and the late GEORGE MONK BERKELEY, Esq.

.....

N.B. Several EDITIONES PRINCIPES in the fifteenth and sixteenth centuries.

It will be noticed from the above that the catalogue is not only of Berkeley's library but also of his son's and grandson's. And it is obvious at the first glance at the catalogue itself that many of the books could not have been purchased by Berkeley, for they are published after his death. About five hundred or so can be ruled out as clearly not Berkeley's for this reason.

¹The list is numbered 1-1546, but for some reason sixty-eight numbers are used twice, making a total of 1614. I also noticed that number 1101 was missing, and some other numbers may also be missing. Many of the books consist of more than one volume, so that the number of volumes is well over 2000.

The classification of the remaining eleven hundred or so has already been undertaken by the one student who has interested himself in the matter. In 1929 M. René Maheu published an article in the *Revue d'Histoire de la Philosophie*¹ entitled *Le Catalogue de la Bibliothèque des Berkeley*. According to M. Maheu the books can be divided into four classes:—

I. Modern Philosophy 26, Mathematics, Astronomy, Physics 28.

II. Languages 21, Travel 104, Italian literature 107, Spanish literature 48, French literature 47, General literature 42, English literature 12, History, Politics, Law, Curiosities (including some music) 116.

III. Latin authors 113, Greek 94, Ancient Philosophy 33, Medicine, Magic, Natural History 39.

IV. Works of Piety and Hebrew Literature 230, Theology 51, Patrology 17.

This classification seems to me a sound one. M. Maheu proceeds to give a list of those books which in his opinion influenced Berkeley philosophically in the later periods of his life, and follows this up with some very useful comments on the catalogue as a whole. He first suggests a reason for the comparative fewness of books in the first section, a matter we shall consider later; he then goes on to assert that the list as it stands shows how wide were Berkeley's interests and how general his reading; thirdly, the large number of theological books and works of piety testify primarily no doubt to the office of the Bishop and of his son, but also to Berkeley's real interest in the subject and in the theological and Deist disputes of the age; fourthly, the comparatively large number of Spanish books, most of which were published in Spain before 1716, enables M. Maheu to make the acute and plausible suggestion that Berkeley might have visited Spain sometime between 1718 and 1720. As far as I know there is no evidence to disprove this possibility.

But in the course of his comments M. Maheu makes a claim for the catalogue which we must consider more carefully. He claims that in it we find the counterpart of the *Commonplace Book*. Just as the latter reveals to us Berkeley's mind, and the influences which were at work, in the formative 1706-8 period, so this catalogue of his library shows the influences which played upon him in the later periods of his life. "En réalité," he remarks,² "bien qu'infiniment moins directement

¹ Avril-Juin, 1929. 20 pp.

² p. 16.

utilisable, nous sommes convaincus que le Catalogue peut jouer à l'égard de la deuxième et troisième période de la vie de Berkeley un rôle comparable à celui, si remarquable, du *Commonplace Book* à l'égard de la première." We should note the careful qualification "infiniment moins directement utilisable". M. Maheu does not, of course, claim that the catalogue is as valuable as the *Commonplace Book*, but he thinks it will enable us to understand the influences at work on Berkeley in the second and third periods of his life, that is, the periods of *Alciphron* and *Siris* respectively. If this is true, the catalogue is obviously of the first importance in the study of the later Berkeley. Before we can accept this view, however, certain prior enquiries must be made, so as to test its validity.

For M. Maheu's assertion brings up the central problem in connection with this catalogue. How many of these books were actually in Berkeley's library when he prepared himself for the writing of *Alciphron* and *Siris*? And, secondly, are all the books contained in that library listed in this catalogue? I propose to deal with these problems separately. With regard to the first, it has already been noticed that about five hundred of the books could not have been in Berkeley's library, since they were not published until after his death. In the same way we should rule out all books published after 1732 if we wish to consider the influences on *Alciphron* (published in that year), and after 1744 for *Siris*. But, again, we cannot assume that every book listed in the catalogue and published before 1732 influenced Berkeley in writing the *Alciphron* or was read by him. M. Maheu himself gives us¹ an instance of a book published in 1724 and listed in the catalogue, of which Berkeley knew nothing in 1751, so that it must have been a later acquisition. And even were we able to show that such and such a book was actually in Berkeley's library before 1732 we should still have to show that he read it. Thus it would be very unwise to assume that every book in this catalogue and published before 1732 was known to Berkeley at the time of writing *Alciphron*. None the less, we have sufficient ground for believing that a large majority of the thousand or so books included in the catalogue and published before Berkeley's death were in his library and were known to him personally. As I shall try to show when dealing with the second question, we can see that some of them must have been there. Again, most of the Italian books were obviously gathered in Berkeley's period of

¹ p. 6.

travel in Italy, and, if M. Maheu's suggestion is admitted, the Spanish books also were collected by Berkeley himself in Spain. Finally, Messrs. Leigh & Sotheby were evidently under the impression that many, if not most, of the books they had to offer came from Bishop Berkeley's library. We should not, of course, draw false conclusions from the fact that Berkeley's name is given greater prominence on the title-page than those of his son and grandson. That might have been done out of deference to the greatest figure of the three, and out of a natural desire to make the list appear as imposing as possible. Yet, the answer we ought to make to the first question seems fairly obvious. Most of the books published before 1753, and listed in the catalogue, must have come from Berkeley's own library. They are frequently books we should have expected him to possess. (For instance, it is natural to believe that two books dealing with America published in 1724, which are found in the catalogue,¹ were purchased by Berkeley when they first appeared, and when he himself was so anxious to gain information that would prepare him for his missionary trip to the Bermudas.)

We may now turn to the second and more difficult question. Have we before us in this catalogue a complete list of Berkeley's books? Or is it at best merely a selection? I hope to show that the second view is the truer. The catalogue gives us some of Berkeley's books, but certainly not all of them. If this view is the true one, it follows that the catalogue is never a safe guide as to what Berkeley was reading at any time, and in particular as to the influences which worked upon him in writing *Alciphron* and *Siris*. It also follows that M. Maheu's statements on this matter need to be qualified considerably.

It is not very difficult to believe that Berkeley must have possessed at different times more books than the thousand or so contained in the catalogue. He purchased as many books for Yale, and it is not likely that his own library would have been so small. Again, many of the books he used in writing *Alciphron* at Whitehall, Rhode Island, were not brought back to England in 1732, but were given away in America.² Lastly, the books were sold by Leigh & Sotheby forty-three years after the death of Berkeley, and in that long period many of the books in the collection when he died might have disap-

¹ No. 517: *Labat: Voyage aux Isles de l'Amerique.* 1724.

519: *Lafitau: Mœurs des Sauvages Ameriquains.* 1724.

² cf. Hone and Rossi, *Bishop Berkeley*, p. 164, and also Benjamin Rand, *Berkeley's American Sojourn*, pp. 42, 61.

peared. There are general reasons of this sort for holding that the library of Berkeley must have been bigger than the library listed by Leigh & Sotheby. But a more exact proof of this is possible. *Alciphron* and *Siris*, as is well known, differ from the earlier works in the frequency of reference to earlier writers. Whereas in the *New Theory of Vision*, the *Principles*, and the *Three Dialogues*, mention of other writers is rare, the later works are full of such references. Thus Berkeley himself in his later works makes quite clear to the reader what books he had been reading and what influences were at work upon his mind. Frequently he gives page references to such books, so that they must have been in his possession at the time of writing, and in his own library. For *Alciphron* was composed (if not written) on Rhode Island, and *Siris* at Cloyne, and in neither place would Berkeley have access to a college library, or to any library other than his own—and those of friends, if such existed near him. Consequently, practically all the works to which he refers directly in these two books must have been in his own library, and if the catalogue gives us a complete list of Berkeley's library at least all of these books should be contained within it. There should be few, if any, exceptions.

Here then is an excellent test of the reliability of the catalogue as a guide to Berkeley's reading in the years 1713 to 1744. Before we carry out the test, however, a word should be said about the period up to 1713. M. Maheu's explanation of the fact that few of the books which Berkeley would have used in this early period appear in the list is surely correct. Up to 1713 Berkeley would have relied largely on the library of Trinity College. He himself was not rich, and would probably buy as few books as possible. Certain of the books listed in the catalogue might well have been used in his first reflections. For instance, 663 is *Newton's Opticks* (1704); 434 *Molyneux on putting a Telescope to a horizontal Dial* (1686); 393 *Newtoni principia Mathematici* (1687); 188 *Descartes De Homine* (1677); 1507 *Locke on Understanding* (1700); and 1078 is *Norris's Miscellanies* (1706). But again these might have been purchased later. And with these doubtful exceptions the other books which he must have read in this period are not mentioned. (Indeed, the absence of books which we know to have influenced him in his youth strikes us immediately in reading the list. For instance, a copy of Locke's tractate on *Education* is found in it, but this with the *Essay* exhausts the books by Locke. Yet we know that Berkeley

read other works of his. Again, Berkeley must have possessed at some time or other books written by Malebranche, but not a single book of Malebranche's is listed here. In the same way, no work of Spinoza's appears in the catalogue.¹⁾ On the whole, however, for the reason given by M. Maheu we should not expect to find in the catalogue many of the books which influenced him in the earliest period. What of the second and third periods?

To take *Alciphron* first, a comparison of references and catalogue makes it clear that the catalogue certainly does not contain a complete list of the works used by Berkeley in composing *Alciphron*. I noted forty-seven such direct references, but I can only find one of the forty-seven books in the catalogue. This is Origen's *Contra Celsum* (1203). In a more general way one finds the *opera* of Plato, Aristotle, Livy, Cicero, Horace, Virgil, Seneca, Josephus, Dionysius, Bacon and Newton in the catalogue, and these writers are referred to or quoted in *Alciphron*. But one can argue little from this fact. No doubt such *opera* would be found in all the good private libraries of the period. The only possible conclusion that can be drawn from a fair comparison of references and catalogue is that the latter cannot help us greatly to determine the direct influences which were at work on Berkeley's mind when he wrote *Alciphron*. Probably many of the philosophical books which he used at Rhode Island never returned to England and so could not possibly be contained in this list.²⁾

When, however, one turns to *Siris* the position is altered. We find a sufficiently close resemblance between references in *Siris* and the catalogue to justify us in holding that the latter must include a fair proportion of the books used at Cloyne. Direct references to books, with occasionally a page reference, are fewer than in *Alciphron*. Of the sixteen which I noted four are found in the catalogue:—

¹⁾ A work by a man named Spinoza which was published at Milan in 1580 is listed (no. 964).

²⁾ At the same time, one item in the list is of very real interest in connection with the publication of *Alciphron*. In 1715 Berger published at Leipzig the first complete edition of the letters of Alciphron, a second-century Greek, who wrote a collection of letters dealing with the life of the country and the town, the troubles of social parasites and courtesans. This work is included in the catalogue (849) and no doubt Berkeley felt that the degenerate and rather jaded mood of the letters had its counterpart in the English life of his own time, particularly in the Freethinking which he disliked so intensely. Hence the title of his own work.

480 *Grew's Anatomy of Plants.* 1680 (*Siris*, § 30).
 506 *Simplicii Comment. in Aristotelem de Anima.* Venet. ap.
 Ald. 1527 (*Siris*, § 315).
 756 *Proclus in Platonis Theologiam.* Hamb. 1618 (*Siris*, § 333).
 1483 *Plinii Historia Naturalis. Delphini Par.* 1685 (*Siris*,
 § 11 ff.)

Also, in *Siris* (§ 270) there seems to be a fairly explicit reference to Clarke's work *On the Attributes* which is also included in the catalogue (1037). Furthermore, amongst the sixteen books mentioned are many medical works and it is not impossible that some of these works were never contained in Berkeley's library, and not known by him at first-hand, but that he had his information about them from Le Clerc's *Histoire de la Medicine* (Amst. 1702), or from *Miscellania Curiosa Medico-Physica* (Lips. 1670), both of which appear in the catalogue (Nos. 414 and 1454 respectively). (The most striking omission amongst books actually mentioned in *Siris* is Cudworth's *Intellectual System*. Both direct and indirect references are made to it in *Siris*, and one would have expected it to be in the catalogue, but I cannot trace it.)

Again, when we turn to authors (rather than to particular books) mentioned in *Siris* many of them are little known generally and would not be commonly found in private libraries. Yet they are found in this list. Of the forty-two authors mentioned, I noticed that works of nineteen are included in the catalogue. They are Boyle, Hippocrates, Boerhave, Plutarch (much of it spurious), Diogenes Laertius, Jambliehus, Simon Portius, Plato, Aristotle, Galen, Plotinus, Vossius, Descartes, Virgil, Cicero, Lucretius, Philo, and the editors Ficinus and Alexander Aphrodisiensis. Here, again, it is evident that Berkeley used the historical works of Plutarch and Diogenes Laertius extensively, and he might have known of many of the other authors to whom he refers, indirectly through such books, so that it is not strange that their works are not to be found in the catalogue. But whether this be so or not, the fact that so many of the authors referred to in *Siris* are also found in the catalogue supports the view that the latter is a correct list of some of the books in Berkeley's library at Cloyne. The student researching into Berkeley's *Siris* in future will have the advantage of knowing what actual editions of several works mentioned in the text were used by Berkeley, and for this reason alone the catalogue is tremendously valuable. But even here he will need to tread carefully, for in *Siris*, § 332, Berkeley refers his reader to "the seventy-eighth page of the second

tome of Aldus's edition of Plato's works", which he presumably had beside him at the time. Yet I cannot trace this edition amongst the various editions given in the catalogue. Thus the fact that such and such an edition appears in the catalogue is never of itself sufficient proof that Berkeley made use of this edition.

If we now return to the second question which we asked, a definite answer can be given. The catalogue certainly does not supply us with a complete list of Berkeley's books. This is obviously true of the period when *Alciphron* was composed; and though the list does contain many of the books upon which Berkeley worked when at Cloyne there are here again obvious gaps. At most, it gives us a representative, but not exhaustive, list of the books in Berkeley's library. There can be no doubt that many of these books were possessed by Berkeley and no doubt also that, though they are part only, they give us the flavour of the whole. M. Maheu is quite justified in holding that the catalogue suggests a book-lover of wide and varied taste and of sound culture. The list is too long to be given in full here. The major part of the books are not philosophical nor even scientific. Berkeley seems to have been genuinely interested in all learning, and in his reading never confined himself to any particular field. In this sense the catalogue does give general information about Berkeley's reading which confirms the impression one gains in reading his works. When one comes to a detailed use of the catalogue, however, the greatest care is necessary, for, on the one hand, not all the books listed are Berkeley's, and, on the other, Berkeley most certainly used many books not listed in the catalogue.

To conclude, the main purpose of this article has been to point to the existence of the catalogue. But I have also sought to show in connection with it, firstly, that it cannot be neglected by close students of Berkeley, secondly, that it is not a complete and exhaustive list of Berkeley's books, thirdly, that it does not throw much light on the period up to 1713, nor indeed on the second period from 1713 to 1734, but that it becomes very valuable in dealing with the third or Cloyne period. For most of the books which Berkeley used at Cloyne are probably listed within it. M. Maheu's claim that the catalogue is important is certainly justified. Perhaps, he over-emphasises its importance in the comparison with the *Commonplace Book*, a comparison which might easily lead to misuse of the catalogue. It should not be used blindly. Its evidence will need to be constantly confirmed by information gained elsewhere before

we can wholly rely upon it. None the less, used carefully and wisely, it ought to help materially in future research upon Berkeley.

APPENDIX.

I append a list of a few of the more important books (philosophically speaking) which are found in the catalogue. The spelling of the catalogue is followed throughout.

40. Platonis Opera a Ficino, 5 tom	Lugdun.	ap. Tornae	1550
60. Pensees de Pascal		Par.	1679
165. Clarendon on Hobbes's Leviathan			1676
167. Behme's Aurora, or Day Spring			1712
188. Des Cartes de Homine		Amst.	1677
203. Virgilii Opera, a Valkenier		Amst.	1646
225. Stobaei Sententiae		Francof.	1581
226. Platonis Opera, Ficini, 2 tom		Francof.	1602
242. Plotini Opera Philosophica		Basil,	1580
244. Aristotelis Opera ab Erasmo		Basil,	1531
250. Josephi Opera		Basil,	1544
280. Ciceronis Epistolae ad Familiares		Amst.	1645
286. Ciceronis Opera omnia 20 tom		Glasg.	1749
392. Majemonides de Sacrificiis		Lond.	1683
393. Newtoni principia Mathematici			1687
432. Newtoni Optice			1706
467. Philo Judaeus	Par.	ap. Turneb.	1552
485. Baconi Opera			1665
531. Hutcheson's Moral Philosophy		Glasg.	1747
575. Platon (Les Oeuvres de) par Dacier, 2 tom		Amst.	1700
649. Dionysii Opera		ap. Junt.	1516
655. Limborch de Veritate Religionis		Goudae.	1687
659. Lucretius de Rerum Natura	Lugdun.	ap. Gryph.	1540
673. Butler's Analogy of Religion			1736
704. Gulielmini Opera Mathematica		Genev.	1719
724. Des-Cartes Opera Philosophica		(No date)	
757. Hippocratis Opera, a Foesio		Genev.	1657
798. Fenelon Dialogues des Morts		Amst.	1727
849. Alciphroni Epistolae (Gk. Lat.) a Berglero		Lips.	1715
851. Boetius de Consolatione Philosophiae		Lug. Bat.	1656
853. Locke on Education			1693
883. Plutarchi Opera ab Henrico Stephano		Par.	1572
911. Hutchinson's Works, 12 vols.			1709
919. Newton's Opticks			1730
926. Collier's Discourses			1725
946. Vossii Variae Observationes		Lond.	1685
964. Spinoza Dialogo en Laude de las Mugeres		Milan,	1580
974. Barrow's Works, 2 vol.			1687
978. Mosis Majemonidis Constitutiones de Fundamentis Legis	Amst.		1638
1013. Strabo (Gk. Lat.) a Xylandro		Lut. Par.	1620
1014. Galeni Opera, Graece, 5 tom		Venet. ap. Ald.	1525
1037. Clarke on the Attributes			1725
1059. Boerhaave's Aphorisms			1755

1084.	Platonis Dialogi juxta edit. Serani	.	.	.	Dublin, 1738
1085.	Clarke and Leibnitz's Papers	.	.	.	1717
1090.	Plinii Epistolae	.	.	.	Oxon. 1686
1100.	Locke on Understanding, 2 vol.	.	.	.	1748
1121.	Seneca's Morals, by l'Estrange	.	.	.	1682
1139.	Reeves's Apologies of Justin Martyr, etc.	.	.	.	1709
1153.	Steele On Comic Sections	.	.	.	1723
1162.	Dodwell's Christianity not founded on Argument	.	.	.	1743
1169.	Scaligeri Opuscula	.	.	.	Par. 1610
1203.	Origen Contra Celsum ab Hoeschelio	.	.	.	Aug. Vind. 1605
1230.	Origenis Opera	.	.	.	Rothomagi, 1668
1277.	Horatii Opera	.	.	.	1642
1315.	Butler's Hudibras	.	.	.	1744
1346.	Campbell on the Original of Moral Virtue	.	.	.	1733
1399.	Browne's Christianity not mysterious	.	.	.	1697
1434.	Aristotelis Opera. Gk. et Lat. a Sylburgio	.	.	.	Francof. 1587
1445.	Acta Eruditorum (1682-1701), 24 vols.	.	.	.	Lips. 1682
1462.	Boyle's Philosophical Works	.	.	.	1725
1469.	Smith's Optics, plates, 2 tom	.	.	.	Camb. 1738
1487.	Thome de Aquino super Libris Boetii	.	.	.	Tholossa. 1481
1507.	Locke on Understanding	.	.	.	1700
1515.	Cardani Opera Philosophici ac Medici	.	.	.	Lugd. 1663
1527.	Plutarchi Opera a Xylandre	.	.	.	Francof. 1620
1541.	Alexandri Aphrodisiensis in Sophisticos Aristotelis Elenchos Commentaria	.	.	.	Venet. ap. Ald. 1520

V.—DISCUSSIONS.

ON THE SUBJECT-OBJECT RELATION.

SOME recent pronouncements concerning the nature of this relation seem to me faulty through failure to conceive correctly its physiology. But let us see, first, what the situation is.

The chief disagreement is as to whether the sense-datum is identical with the object known, or distinct from it. All must recognise, in any case, that subject and object are two—that when a cat sees a mouse, or a man starts to climb a mountain, the mouse and the mountain are existents distinct from the man and the cat. This does not necessarily involve the consequence that sense-datum and real thing are distinct: for cognition is transcendent, and may perhaps transcend in such a way as to secure their identity. Unless they are identical, monists in epistemology will argue, only the sense-datum is known; the real thing is not known.

All must recognise, in the second place, that between the real thing and the subject's reception of the sense-datum a causal relation intervenes—a causal relation and a time-lag, greatest in the case of the stars. This again does not necessarily involve the distinctness of sense-datum and real thing: the monist can adapt himself to the facts by construing vision as a looking back into the past, analogous to memory. When only one star is seen, this is plausible; but usually we see a multitude of them, the light from which has taken a different number of centuries in each case to come to us—so that vision of them at once involves many simultaneous acts of this quasi-memory. Further, we see them not, as a closer vision would show them, as enormous suns, but as they must appear from this point of view and at this retarded moment; the sense-datum expresses the position of the subject as well as the nature of the object, and has parts which at least in this aspect are simultaneous. Again, vision purports to show the object as it is now; this function was given us to see and deal with things near at hand, as the cat does; Nature never meant that we should be astronomers. Finally, press in the eyeball, and you see two stars for every one existent externally: will it still be maintained that sense-datum and real thing are identical?

My purpose, however, is not to stress once again the difficulties of the monistic interpretation, but to draw attention to the importance of the causal relations between subject and object as an element in the problem, and to raise the question how far

the causal action of the object in evoking states of the subject suffices to account for the subject-object relation. Contemporary writers speak of the "causal theory of perception". This theory is advanced in various forms. Bertrand Russell, for example, having become convinced that what we immediately see is in the brain, notes that it is an effect produced by the causal action of the object, and concludes that the latter is reached by "physiological inference" from it. Had he made it clear that what is in the brain is sensations—not sense-data—and that physiological inference is (owing to a factor soon to be mentioned) not inconsistent with direct cognition, his statement would be faultless. Whitehead conceives the matter somewhat differently. He thinks that the "mode of causal efficacy" is the primitive and, even in man, the fundamental form of perception; the "mode of presentational immediacy" only displays in separateness the elements which the causal action of the object has brought in solution; the cause "survives" in the effect, the object in the "subjective form"; and this mystical unity of cause and effect, bridging the gap of time, is his explanation of the hold which the subject has on the object. This view permits him to maintain that wherever there is causal action there is "prehension"; with the result that the whole universe becomes organic.

The criticism I have to offer on this account of the subject-object relation is that it is physiologically defective; that it overlooks an indispensable factor, or fails to perceive this factor's significance. Vision and touch involve not *one* causal relation, but *two*, which I shall call afferent and efferent; and the efferent causal relation is that in particular which makes a state of the subject refer to an object. Laying all the weight on the afferent causal relation makes the subject-object relation essentially *physical* or quasi-physical, whereas it is essentially *biological*. Finally, vision and touch exist primarily for the sake of action; unless the subject's reaction in attending to the object is considered, the cognitive situation is mutilated; and only by considering it can the subject's hold on the object be explained.

The subject-object relation (in its cognitive aspect—for it has also an emotional and volitional aspect) has been aptly described as one of "presence in absence". The past, in memory, is obviously absent *quâ* past, but present *quâ* remembered. In like manner, the star is absent as respects its true time and real bigness, but present *quâ* seen; and the same must hold in lesser degree for nearer objects. The problem is to explain by what means an object, in spite of its absence, is made present to the mind. I maintain that the means is the reaction of attending. And my argument for this view will be an evolutionary one.

What was the primal necessity that led to the existence on earth of such a thing as cognition? It was the need of animals to take food and escape from enemies, in order to survive. Food and

enemies were existents external to them. The only indication by which the presence of these existents outside an animal could be brought home to him was the change they produce in his body, by acting on it directly in the case of touch and through the intermediary of sound-waves and light-rays in the cases of hearing and sight; and the sensation accompanying the bodily change was strictly limited in its nature and duration by the nature and duration of the physical impression. To seize the food or escape from the enemy, the animal must react. He must react in a way appropriate, not to the impression as such, but to the external existent that caused it.

Consider how strange a thing it is that a sensory impression should call forth a reaction, not to itself, but to something other than itself and external to the animal's body. It must have taken ages to evolve organisms that could do this—organisms with powers of response to the external.

Such an evolution was made possible by the fact that the impression varies with its external cause, and therefore affords an indication of the nature and position of this cause—be it a morsel of food, or an enemy. In the one case the animal must seize, in the other he must run or fight; and he must be equipped with organs (or the rudimentary equivalents of organs) permitting him to do these two opposite things. But a preliminary to either (at least in advanced organisms) is that he should attend: which he does by contracting the muscles of his sense-organ and directing it toward a certain spot. This puts him in relation to the external thing, and is a first beginning of his *having to do* with it.

Now having to do with an external thing, or referring to it indicatively, is the first of the two essentials of the cognitive relation. Note that the referring is not purely physical, a mere reaction of the subject's body, but is also felt, since muscular and other sensations give him feelings of the direction in which his sense-organ is turned. He turns it instinctively, and with trust that there is a real thing at that point. Thus cognition, in so far as it is the mere indication of an external existent by having *feelingly* to do with it, can be fully accounted for without attributing to sensations any intrinsic power of looking beyond themselves, or supposing them to know in any other way than by standing in certain external relations.

But this indicative function has only apprised the animal *that* there is an external thing and *where* it is, without telling him *what* it is. His information concerning its nature must come to him from the nature of the sensory impression, which, simply as a force, has moved him to attend. Since his attention is not addressed to the sensory impression itself, but is wholly engrossed with the external existent that caused it, what appears to him and becomes sensibly present will not be the subjective characters of this sensory impression, but the objective characters which it

permits him to suppose in its external cause—what he hears will not be a ringing in his ears but the roar of the wind, what he sees will not be a subjective luminosity but an objective light. Only the supposed characters of the real thing will be sensibly present to him; but since these are in fact, and can only be, drawn from the characters of the sensory impression—conjoined, it is most important to add, with the muscular sensations by which he feels his particular act of attending—the *sensibly given characters will be distinct in their being from the real characters*, and dependent for their truth on the degree to which the sensory impression, when interpreted by the felt muscular act, is able to report the real characters correctly.

Thus the conditions of the origin of sense-perception—the problem Nature had to solve, and the means at her disposal for solving it—were such as to entail a duplicity or “bifurcation” of the sense-datum and the real thing.

Since the subject's attention is wholly addressed to the real thing, and the supposed characters never come to him otherwise than as reports, his instinctive trust in the existence of this thing will extend also to the description they gave of it; and he will imagine himself to be directly beholding its nature—as in effect he is, to the extent which his apparatus of sensory reception and attentive response permits.

If we note that the space of sense-data is derived with little change from the space of sensations, and that the space of sensations is (on the view here presented) a portion of real space, we shall see that his trust is in the main justified. The reports must contain a large element of truth, otherwise he would not be able to distinguish food from an enemy. Their origin by afferent causation and efferent indication guarantees such an element, and provides a conclusive reply to agnosticism. This element of truth forms the sufficient foundation for science, as vision is sufficient for astronomy.

Thus the second essential of the cognitive relation—awareness of *what* the object is—is explained, equally with awareness of its *that*, without the attribution to the animal of anything but subjective sensations in external relations, blind feelings made seeing, hearing and touching by the function they subserve. In both cases, reaction to the object is that which indicates its existence and turns the sensations into reports of its nature. Of course the reaction or efferent causal relation could not do this, if the afferent causal action of the object on the animal's body had not evoked it and supplied it with the means.

Cognition, it will be clear from the foregoing, is a device of Nature for enabling animals to adjust themselves to their environment and so survive. It may be doubted whether any but animals—or, possibly, animals and plants—are able thus to take note of their surroundings and behave in a self-preserved manner. The subject-object relation is essentially biological. An atom, when

assailed by one of Lord Rutherford's alpha particles, does not note the danger and seek to prolong its existence—I speak under correction—but succumbs as helplessly as a spy before a firing party. Clearness of thought demands that the distinction between the organic and the inorganic, between the subject-object relation and physical causation, should not be broken down.

C. A. STRONG.

FORMALISM AGAIN.

LIKE Mr. Alfred Sidgwick, I have greatly appreciated the courtesy of Mr. Mace's replies in the April number (p. 208) to some points in my article in the January number; but since they do not leave me wholly satisfied, I must endeavour to explain why I have still to ask for more light.

I appreciated also the candour of Mr. Mace's confession that Formal Logic is really irrelevant to human thinking and that "the minimum of reference" which it has thereto is just *nil* (p. 208). But this confession also leaves me more puzzled than ever as to what Formal Logic is about. I had supposed that Mr. Mace would have declared it wholly independent of 'facts' and utterly devoted to the contemplation of pure 'forms'; but we are now told (p. 209) that "Formal Logic is not concerned with either . . . the theory or the practice of thought (in the sense of actual thinking)". Evidently, however, Mr. Mace regards 'formal relations' as 'facts,' and not as logical fictions. If so, how does he distinguish between them and *verbal* relations? It seems clear that the so-called 'formal relations' have a verbal side, and it is therefore very desirable that it should be made clear what *more* they have; otherwise the principle of parsimony would warrant their condemnation as *merely verbal*. The suggestion therefore that Formalism is just verbalism seems, so far, to give an adequate account of the meaning of the mysterious science of Formal Logic.

With regard to its *uses* I think that its services to dialectical debate are historically indisputable, though, to please Mr. Mace, I am quite willing to minimise its value as a sharpener of wits: I am willing also to concede to Mr. Sidgwick that, superficially, it 'saves trouble' to evaluate arguments at their verbal face-value without going into the merits of the case (MIND, p. 344). But as to the one point about which Mr. Mace, Mr. Sidgwick and I appear to be agreed, viz. that Formal Logic is a *game*, I am not yet fully satisfied. Taking Mr. Mace's word for it that it is a game certain superior persons enjoy, because it satisfies their 'human' (or perhaps rather *inhuman*) 'curiosity,' I yet fail to see in this any reason why it should be made a *compulsory* game for academic students, either of philosophy or of the sciences, to the detriment and exclusion of 'useful' logic. One might be more enthusiastic about it as a legitimate word-game, if its practitioners would limit their claims to this, and could be induced to refrain from poaching and raiding

beyond its territory: but they persist in intruding upon 'useful' logic, distorting its doctrines and falsifying its processes by a Formalist analysis which is merely relative to their own prejudices.

I am inclined to think that Mr. Mace also lays himself open to this complaint, by the way he takes my suggestion that in 'useful' logic the relation 'follows from' may well be taken quite literally. He supposes himself "in the habit of thinking that *all animals are horses* after thinking that *all horses are animals*," and yet holds that "the second thought still doesn't 'follow' in the important sense," because "it doesn't follow in fact, and it is obvious to everyone that it doesn't follow" (p. 210).

This illustration seems to me to be a bad bit of Formalism, and to illustrate admirably the dangers of Formal analysis. For it does not envisage or imply any actual train of thought. Mr. Mace is clearly thinking only of 'the logical relation' between two abstract 'terms,' and not of any real case of actual thinking, as he should do, if he is really desirous of understanding the standpoint of 'useful logic'. To render his illustration relevant to a real case of thinking, he would have to suppose a foreigner so vague about the meaning of 'horse' and 'animal' as to wonder how they were related, and honestly to inquire whether he could pass from *all horses are animals* to *all animals are horses*. For only then could the latter proposition become a significant judgment. If, however, Mr. Mace had been fortunate enough to find such a foreigner, he might be surprised to find him quoting *all equi-lateral triangles are equi-angular* and *all equi-angular triangles are equi-lateral*, and wanting to know wherein 'horses' differed from other *equines*; and what there was about the *form* of the propositions concerned that rendered their 'simple conversion' possible in the one case and not in the other. And perhaps, after listening to the traditional explanation of this matter, he might observe that the 'validity' of the inference manifestly depended, in *both* cases, not on the verbal implications of the terms used, but on the actual relations, *in rerum natura*, of the objects judged about.

With this conclusion Mr. Mace would perhaps be in agreement, if, that is, we may press his reference to 'following *in fact*' (p. 210), while I, for my part, am, of course, quite in agreement with what he says about the derivation of 'verbal meaning' (*alias* 'conventional intension') from personal meaning. I should add only that though verbal meaning is not so *fluid* as personal, it has yet to be conceived as always *plastic*, and that it is a great mistake to seek to impose on it the Formalist ideals of 'rigidity' and 'exactness'. These phrases simply denote rules of the game of Formal Logic, which cannot and should not be transferred to any Logic which tries to 'follow' (in any sense) the procedure of actual thinking.

F. C. S. SCHILLER.

FORMALISM—A REJOINDER.

My controversy with Dr. Schiller is becoming very protracted, but even now I find it difficult to decide where precisely our most fundamental difference of opinion lies. It may help matters, and economise space, if I try once more to state where I think I agree with him and where I disagree. In doing so I hope to touch, at least by implication, on some of the points suggested by Dr. Schiller and upon some suggested by Mr. Sidgwick. I agree that traditional formal logic (which following Dr. Schiller I will call *Barbara* for short) is in many ways an unsatisfactory subject. It is unsatisfactory both as a 'pure science' and as a practical discipline for the mind. Perhaps—as Dr. Schiller hints without taking undue advantage of the fact—I have even exaggerated *Barbara*'s limitations. In any case, I agree that we need a really 'useful' logic. I agree that we should discuss at the proper time and in an appropriate context all the questions which Dr. Schiller regards as so important. Allowing for individual differences in emphasis and idiom, our agreement on the positive particularities of the case is probably very far-reaching.

Where I seem most radically to differ from Dr. Schiller is in his root and branch attack on the formal sciences as a whole. If some of the things he says are true, not only *Barbara* but all symbolic logic stands condemned, and perhaps all pure mathematics as well. Admittedly, *Barbara* is the Cinderella of the family, but it is a very distinguished family. My own hopes are that even *Barbara* herself, shorn of her fussy trimmings and disciplined a little, may become at least presentable.

Mr. Sidgwick suggests that what chiefly divides us is the sense of certain dangers—the danger of exaggerating the utility of formal logic and the danger of its misapplication. Whereas, for the consciousness of this danger, Dr. Schiller and Mr. Sidgwick cannot sleep at night; I, it is contended, shew no sign of being aware of it. If I shewed no such sign it can only be, I think, that I did not dream that this could really be the central issue. Nor do I still. The serious differences are, I believe, two in number—one an issue of fact and one a matter of evaluation.

The issue of fact is, I think, this. I should maintain, whilst Dr. Schiller would deny, that one fact may differ from another in two quite different ways. It may differ in 'matter' and it may differ in 'form'. This distinction, like all very fundamental notions, is

very difficult to define. The terminology is perhaps objectionable, and many accounts of the difference leave much to the imagination. But formal logicians have been at considerable pains to make the distinction clear. Having, I think, seen what they mean, I cannot for the life of me see why a difference in form should be in any way more verbal than a difference in matter. Both have a 'verbal side' inasmuch as both may be expressed in words or other symbols. But the symbols, I suggest, really symbolize. Form, in particular, lends itself to expression in a more technical way. This in fact is just the beauty of the symbols. They *shew* so very simply the thing we find so difficult to *define*.

True, we cannot have it both ways. If we want to concentrate on form we are forced, in the meantime, to ignore some of the interesting and admittedly important questions which Dr. Schiller wishes us to discuss. To insist on the right to ignore these questions (in the meantime) is merely to claim the right of doing one thing at a time. But *do* we wish to concentrate on form? This is my second difference with Dr. Schiller, and perhaps my chief difference with Mr. Sidgwick.

Am I really to believe that these distinguished authors are so devoid of the sense of ultimate and intrinsic values as to regard merely as a game everything that does not actually contribute to the immediate utilities? It is true that I implied that the interest in formal logic is in *some* respect similar to the interest in a game of chess. But the comparison was not mine. It is one that Dr. Schiller and Mr. Sidgwick have conspired to foist upon me. Even so; even though it be that the satisfaction we derive from the pursuit of a pure and inapplicable science is similar in *nature* to the satisfaction of a game, surely it does not follow that the *value* of this satisfaction is equal in *degree*.

C. A. MACE.

VI.—CRITICAL NOTICES.

Les deux Sources de la Morale et de la Religion. By HENRI BERGSON.
Paris : Librairie Félix Alcan, 1932. Pp. 346. 25 frs.

' BEFORE the publication of this book there was no reason,' might a modern Grand Inquisitor say, vigilant alike both for orthodoxy in religion and right reasoning in philosophy, ' why M. Bergson's *élan vital* or *énergie créatrice* should not have been taken for the emptiest of intellectualist abstractions, Energy, Evolution, Activity, Change, Origination, galvanised into false life by a literary imagination; or for many distinct forms lumped together, by the intellectualist's lust for monism, under one name, and then treated as one form of many names. Or, if acknowledged as an *ens reale* at all, it might with reason have been identified with the

" dreaming, dark, dumb Thing
That turns the handle of this idle Show "

in Hardy's macabre *Dynasts*. Now we are told (p. 235) that it either is or comes from (this *either—or* on such an issue and in a *πρότη φιλοσοφία* rather takes one's breath away) the living God revealed in and adequately attested by mysticism—an experience complete only in Christ and in the mystics who have imitated him, but prepared by, and incorporating, the Hebrew prophets' passion for righteous *action*. And what then is God? Creative love, which is creation, which is a single, simple, indivisible act like the raising of one's arm. We are the parts of this gesture or the notes of the symphony and not even the fingers, as we are in Hardy. But what becomes then of freedom? What place or justification is there for the Judæo-Christian experience or revelation which is made so capital in this philosophy? Above all, what of the problem of Evil, inseparable from the hypothesis of a God of love who is yet identical with or even merely the creator of the world *in toto*? It is no solution to reduce all evil to suffering, to say that suffering may not have been willed and in any case is one feature of an indivisible movement of which eliminating one element would mean suppressing all the others, and for the rest to abuse intellectualists for asking improper questions. Nor is it enough to point to the mystic's unmixed joy which transcends both pleasure and pain. The mystic's experience provides no theodicy for a God identical with or expressed by the world as it is, because it is not an experience

of such a God. When purified of "visions, allegories and theological formulae" as M. Bergson would purify it, it only enables us to supplement Aristotle by saying: "God who is love and loved moves the mystic who loves". The mystic does not take his own lust of the flesh and pride of life, which are very much of the world and of the *élan vital*, as being God or even as coming directly from him, and, if he is in the Judaeo-Christian tradition, feels indeed their possible evil very acutely. Is even artistic creation, which M. Bergson continually cites to illustrate creation, directly connected with God or related to the mystic's creation? This is not an intellectualist question. It is asked passionately by a poet, Francis Thompson, in *To the dead Cardinal of Westminster*. To it neither an explicit 'Yes' or an explicit 'No' could be extracted from M. Bergson; and yet he makes us suspect that he identifies not merely this activity but the intensification of all activity or at least of all consciousness with God, with love, with righteousness, in short with value. What has happened? It would almost seem as if M. Bergson, having crowned his philosophy with a theology not really consonant with it, had sent his publisher only the important *addenda* and had forgotten to send the equally important and more numerous *corrigenda*.

Thus our Inquisitor. Would he be right? I am not sure that he would not be stupid. The theology or philosophy criticised could be, perhaps must be, extracted, if M. Bergson is to be systematised. For evidence of it one could point especially to passages where M. Bergson summarises himself (pp. 265-285; *L'Évolution Créatrice*, 269-270). But great philosophers can misdescribe their own philosophy just as great poets their own poetry. And perhaps M. Bergson is not to be systematised, or at least not in one way only. In these very passages, and still more in the body of the work, the Inquisitor could find protests against what he finds objectionable, and suggestions for quite a different theology in which God is conceived only as the original source of, but quite distinct from, created life. To the latter he is always prevenient (to use Von Hügel's favourite term). But his closer connection with it may be conceived in one of two ways. Either he is accepted by it each time it takes a new direction, in which case what unity there is in evolution or life is to be explained by reference to God. Or life, once created, evolves on its own till it reaches man who can turn to the primal source, God. With this latter theory (which on the whole I think is the one implicit in this book) we must try and make up our minds what precisely, in spite of many worlds, orders, genera, species and individuals, is the unity of that life which in M. Bergson appears now as an urge in each germ cell, now as a man or super-man (*L'Évolution Créatrice*, 289), a kind of *θεὸς αἰσθητός*, showing that M. Bergson is after all rooted more in Plato and Plotinus than in modern biology. As for Evil, a theory of it we could already have drawn from *L'Évolution Créatrice*. It is not a manifestation of God. Created life left free begins, some of it, to unmake itself, appearing as matter, while the

rest is obstructed by the latter or of itself goes to sleep or merely repeats itself or stops to admire itself. Self-undoing, obstruction, stagnation, narcissism, these do not perhaps constitute evil, or not the whole of it, but surely amongst them is to be found its origin. Nor in this only will the Inquisitor discover a remarkable orthodoxy. He will further find incorporated (if this is not too brutal a word for what seems an inevitable flowering from M. Bergson's previous thought) the distinction between natural and revealed or true religion, and that between natural and super-natural or divine morality, such pretty nearly (as far as I can see) as it appears in Von Hügel. And he will watch the dawn of the transformation of the Bergsonian biological philosophy of intuition-action into a philosophy which will once more be a *βίον ὥδος* or way of life, of which it shall be said *philosophari est precari, est operari*, one far more difficult and rare than the subtlest of what is ordinarily called philosophy, whose biology will be hagiology, in which dialectic will be replaced by miracle. (Such a dawn I would not call a sun-set. *Honoris causa haec nomino.*) One thing he will not find: support for any institutional religion as a substitute for or as authoritative over living personal communion with the source of life. Institutional religion, the whole life of M. Bergson's work urges us to say, is, at the best, natural religion which imprisons and materialises, but sometimes also nobly 'vulgarises' or popularises, something of the mystic spirit, if it is not merely the cinerary containing the ashes of the sacred fire.

The keystone of this work is the mystic's experience. (I am reversing the order of M. Bergson's exposition in the hope thus to get at the real order of the development of his thought.) This experience is creative love, love of God and from God. (In fairness to the stupid Inquisitor it should be added that whereas for the sake of uniformity the reviewer always says 'God', the writer himself with disconcerting variety as often as not says explicitly or by implication 'life' or '*l'élan vital*' or 'the creative energy or effort of life' or '*Natura naturans*'.) This love M. Bergson calls emotion. But he is not to be understood as advocating a corybantic religion or sentimental morality. The emotion in question is not the "infra-intellectual" one roused by ideas or representations of the intelligence, but the "supra-intellectual" emotion which is the cause of ideas and doctrine, which transcending the intelligence yet contains in itself all intellectuality and ideas, which is like a new music springing into the world with each mystic, which is capable of transposing human life into a new key, which is aspiration-intuition-emotion, which is "*ni du sensible* (sensibility, emotivity) *ni du rationnel*" but both implicitly and actually more than these and at the root of both (pp. 250-251, 270-273, 85, 101, 62, 55, 39-48). In other and in our own words (but cf. 270), it is that which is identical or commensurate with the unity of all the above abstractions (emotion and thought, etc.), or with a person proper. Here is the place to comment, if only briefly

and parenthetically, on M. Bergson's polemical treatment of the hoary question whether we can be moved or obliged by reason or ideas (see especially 84-96). Surely here as elsewhere the escape from antinomies consists in getting away from the antitheses of the abstractions which give rise to them and in returning to the unity. Reason can both move and be moved because it is the kind of reason that can move and be moved, *νοῦς ὄρεκτικος* or *ὄρεξις διανοητική* (not a bad description for an intellectualist to have given). It is moved by something commensurate with it, by a *νοητὸν-ὄρεκτόν*, ultimately by another *νοῦς ὄρεκτικός*. The reason in question, however, is not antecedent to, or the concomitant of, or even immanent in, action (or will or emotion). It is this action (or will or emotion), while the antecedent or concomitant ideas or representations, in all but imitative or repetitive actions, are merely the epiphénoménon or shadow of the action. This, in fact, we find to be M. Bergson's solution (though we give it in our own terms), when we collate all that he says in different passages. But, because for him there is nothing but *either* intelligence (reason) strictly correlative to ready-made ideas, representations, rules, or formulæ, which precede the action, *or* emotion, he often speaks as though the mystic were acted upon and acted upon us by emotion as by a blind brute force like electricity, while at other times the emotion appears to see and the intelligence to make us act (though only selfishly), to resist and to resist resistances (126, 93-95). Yet we must remember that his 'intuition', with which this emotion is all but identified, is like our 'active reason'. It is a little surprising that he does not call it 'open intelligence' to mark both its kinship with ordinary intelligence and its correspondence with 'open morality'. Here we have perhaps to do merely with a difficulty of presentation. One is acutely aware all the time of reading a Frenchman writing for French readers for whom exposition by a series of antitheses of sharp, neat, thing-like abstractions is natural. Perhaps even, at least in its pure form, *l'intelligence*, M. Bergson's eminent characteristic as well as his *bête noire*, is something which, as they themselves often boast, the French alone possess. But far deeper are the perplexity and suspicion aroused by his quarrel with the 'intellectualist' supposition of a pre-existing exemplar (say, absolute justice) to which in the highest moral or mystical action we approximate or which we express (48-49, 70-72, 78-80). True, nothing pre-exists in the form of an idea, rule or code, nothing that can be exhaustively or even usefully defined or described. But is not everything towards which the mystic is evolving already actual *sensu eminentiori* in God? Or does God evolve too? When basing his Ethics and Metaphysic on the experience of God, ought not M. Bergson to have modified his previous philosophy of absolute Becoming? 'There!' growls our Inquisitor, 'he *has* forgotten the *corrigenda*, or rather he has not seen the need for them because he has merely changed his language. He is really asking us to pray to the urge in the germ-cell and to worship the unborn

God destined to arise from our loins. Or rather prayer and worship are with him not communion with a person but merely noble aspirations. His mystic is not the man of God, but any strong, naturally gifted, vital, magnetic personality, one who *nascitur, non fit*, whereas the man of God *becomes* or grows such through tribulation and temptation, through prayer and fasting.'

Let us, however, return to the mystic's love or experience. This is treated on lines made familiar to us by such writers as Evelyn Underhill (who is cited) and Dean Inge, with strong emphasis on its practical, proselytising or Judæo-Christian character, the quietistic or merely contemplative kind being declared to be an arrest of mysticism (every arrest, we must remember, is according to M. Bergson also a warping). In this love the mystic is unified and simplified. He becomes (we may add by way of comment) as a little child, the child possessing to some extent the rich multiplicity in unity which originally belonged to life before it narrowed itself along divergent lines of evolution into vegetative, instinctive and intellectual life. In this unity he is a new species or rather the original *élan* which deposited itself or was arrested in species. (M. Bergson was no doubt thinking not only of what Christians say of Christ and the Christ-like, but also of the Pythagoreans' division of $\tau\circ\lambda\circ\gamma\kappa\circ\lambda$ $\zeta\circ\sigma\circ\tau$ into God, man and "such as Pythagoras"). As pure *élan* he is detached from all that is already made, limited or arrested as species, as historical or past, that is, from all humanity and nature. He is open and dynamic and not shut, enclosed or static. But as *élan* he also loves all humanity and all that is. He loves all in and through God. His love is God's love for His creatures acting in him. It is an urge to turn all humanity into a new species, or rather every individual of a species into pure *élan*, motion, individuality, creativity, so that there can no longer be species, arrest, stagnation, repetition, uniformity. (The mystics themselves clearly make this love aim at a regeneration of all nature and not only of humanity. In M. Bergson this is only a flickering suggestion.) This love is the mystic's religion and morality. It is its power which obliges him, and the obligation, analogous to the artist's in *his* creation, is attraction or aspiration. (The latter word in particular is unfortunate, since, as can be shown from M. Bergson's own pages, the man who has felt the touch of God no more merely 'aspires' than does a torrent.) This religion-morality (the designation is the reviewer's) is spread from person to person by inspiration or imitation. (Here too the words must not be pressed, since inspiration implies unity of spirit amidst the utmost dissimilarity of expression, while imitation refers to outward likeness consonant with dissimilarity of spirit. 'Contagion or incendiarism' would better name the propagation M. Bergson describes.) Like the mystic himself it is dynamic and open. It does not arise from and is not limited by what is already closed or static or expressed or embodied in definite doctrines, institutions, rules, codes, precepts, nor can it

be enclosed in any formulae unless these be paradoxes and contradictions such as occur in the New Testament, though 'reverence for personality', 'self-giving', 'love of humanity', 'universal justice', 'liberty, equality and fraternity' give us some of the moments in it or some of its results. Being open, in so far as it is social (which it is only incidentally), it cannot be content with anything short of a society open to or including all mankind. Nevertheless, though open morality demands (and most urgently in these our present times) an open society, such a society, I think M. Bergson would agree, need not have an open, that is a living, divine morality. With the world made not much larger by the present ease of communication than was the Roman Empire, it is quite conceivable that through economic pressure or conquest a World-State may be established with universal peace and prosperity, *panem et circenses*, and with a narrow, fixed morality sufficient for the preservation of these, which would no more be 'open' in M. Bergson's sense than the *Pax Romana* was the Peace of Heaven. Indeed, writing in 1899, Vladimir Soloviev gives a convincing picture of such a society with such a morality under the Anti-Christ (*War, Progress and the end of History*). Of course, the completely open morality would demand a society which included as *members* not merely all mankind but also all life and even all matter. Yet even so it is not to be defined by this extension or quantitatively, but only qualitatively. It is an opening of the heart and not merely of frontiers.

In contrast and often in conflict with this open or dynamic religion-morality are static or closed morality, the closed society, closed religion. Closed morality (I am interpreting more or less in my own language though, I hope, correctly) is an affair of more or less definite (closed) and definable relations rather than of persons: of impersonal duties, that is, duties incumbent upon any person *qua* standing in certain relations or having a certain status, each individual being related to another not as personality to personality or in virtue of their common humanity (or divinity) but as father to son, husband to wife, ruled to ruler, fellow-citizen to fellow-citizen, colleague to colleague, etc., whereas under the open morality the father, for example, may become son to his son and the wife husband to her husband. It is embodied in more or less definite and definable rules, customs, conventions, codes, institutions. It is, in short, the morality of "my station and its duties". It holds between the individuals of a closed society (a primitive tribe or modern nation) which does not include all men, and it works for the preservation of this society in a definite state. It is thus by nature conservative or static, any change that is suffered being incidental and never properly acknowledged as change. What obliges under this morality is a natural force analogous to (sometimes it is all but identified with) habit, which in turn is analogous to instinct, which is analogous to a law of nature. The 'categorical imperative' would be most categorical and most imperatival to a bee if for a moment it could pause to ask itself why it

should work for the hive. But man, being endowed by nature with intelligence, is different from the bee in that he has been endowed with a certain plasticity or variability within definite limits. Still, the individual has by nature society immanent in him even when he is on a desert island. He is linked to his fellows almost by a sort of anastomosis. He is made by nature to obey society though not in this or that particular way (this being left to his choice). By nature his action is both egoistic and social, a crucial instance of this being the self-sacrifice which springs from vanity or pride. But M. Bergson does not seem to allow sufficiently for conduct which is more selfish than this, which is only incidentally and minimally social, and the 'morality' of which is merely that of prudence or efficiency.¹ Still he is right in pointing out that society asserts itself even in the transgressor, in his hypocrisy, in his shame before his fellow-citizens, in his remorse. Right also is the suggestion that only the mystic (and not the criminal) is completely free from the authority of society (accepted morality). Like the individual, society also by virtue of intelligence possesses a limited variability. It may take on different shapes and it may become wider and wider. But so long as it is natural, whatever shape it assumes, it will be marked internally by class distinctions, by a kind of psychical dimorphism corresponding to the psycho-physical polymorphism in insect societies and dividing the members into ruled and rulers, the latter claiming and the former acknowledging absolute superiority, authority and privilege, while as regards external relations it will never naturally become all-inclusive or open. Group will fight with group, partly because it is simpler to live by preying, but largely, M. Bergson might add, because it is natural to want to have some one to kick or to patronise. Presiding over and fortifying the closed society and in general also closed morality, though not to be identified with the latter, is closed religion. It is the product of the mythopoetic function (*fonction fabulatrice*), a kind of intellectual instinct with which nature has endowed man to provide an antidote against the fear of failure and of death which come to him in virtue of his intelligence, and also against the intelligent temptation (not necessarily selfish as M. Bergson implies) to deviate from the path marked out by society. It keeps his dead alive for him, and peoples all that part of nature which he does not know how to control as pure mechanism, with presences which may be won by prayer or forced by magic to assure success for him, and which lend awful sanction to the more urgent or the more general requirements of the group, as well as championing the latter against all other groups and exalting it above them. Beginning with the quasi-personification of acts, events or functions, passing through all sorts of stages and acquiring on the way many accretions from open or mystical religion, it has most recently manifested itself as the religion of the supposedly one God who became so markedly Gallicised, Anglicised, German-

¹ There is also the 'amoralism' of the 'artistic temperament,' so like the mystic's freedom, so unlike the mystic's love.

ised, in the recent war. Between the closed and the open in each of these cases the difference is one of kind and not of degree. It is the difference between the static and the dynamic, between the stagnant and motion. There is no gradual transition from one to the other, and the latter never springs from the former, in spite of a deceiving appearance due to the way in which the two are interwoven. We may say that the mystic or open opens the closed each time a little more, or, more correctly, that the closed encloses each time something from the open in the form of an isolated practice or attitude or institution or more or less lifeless rule or habit or *veillety*. Thus the measureless mystic conviction of the brotherhood of man and of the equality of all men in the eyes of God, reduced and deadened to equality in the eyes of the law and at the poll, gave us our modern democracies (of Christian origin since the ancient slave democracies were not true democracies), which however carry so much of the past in them and have made so little change in the spirit of society that they would seem, did we not know their history, to have arisen as slight modifications directly from previous conditions. (A fresher instance would be the Russian Revolution, also of Christian origin, if only very remotely and across much perversion, and already interpreted as simply the direct offspring of pre-revolution Russian conditions.) Was it, one wonders, from the history of civilisation that M. Bergson got his notion of evolution as of changes which arise each time not from the already existing but from the one original *élan* working along divergent and complementary lines by *saltus* and depositing a species with all its characteristics *en bloc*, the creation of a species or specific nature being simply the imprisonment of the *élan* or of the new by the past? It is thus that all post-Christian movements may be shown to have sprung ultimately from the one life of Christ, each time reverted to but each time also narrowed, misinterpreted and perverted anew by human nature, prejudices, the past, and imprisoned by natural societies and natural religion which changed not their spirit but only their outward configuration and that only slightly. Whether our guess is correct it is for M. Bergson to tell us. Here, too, it occurs to us, is the place for him to have told us whether the mystic is such (i.e. mystically moral) by nature (i.e. by birth, in virtue of what is in his germ-cell), or whether like anyone else he is born with a natural or closed morality (or disposition towards it), only with greater openness or receptivity; and also what it is he turns to, whether to God or to the *élan* in his germ-cell.

It is in his treatment of the open and the closed, especially in morality, that M. Bergson shows the surest touch and effects the most real integration with his previous philosophy. The distinction, it is true, is not novel. We think of man-made and God-made morality and religion, the way of the world and the way of God, Augustine's two cities, and, not least of all, Plato's 'demotic virtue' *ἐξ θεούς τε καὶ μελέτης ἀνευ φιλοσοφίας τε καὶ νοῦ* and his 'philo-

sophic virtue', though one would have to agree that all Platonic morality as regards its actual *content* is closed and of a closed society. But if philosophers attend to M. Bergson's ample and subtle elaboration of this distinction, Ethics will have gained a much-needed influx of vitality. I could wish I had room to say more about it, though to try and do more than indicate it would be to spoil what M. Bergson has done consummately.

But what does he mean by assigning two separate sources, one for the closed and the other for the open? The closed comes from nature and is that with which (in outline) each is born as a member of the human species. It belongs to primitive man, whom we can find in ourselves when we clear away all that we have acquired by education or tradition. For little or nothing that is acquired is either inherited or alters original nature. The open comes from God (alternatively, from the *élan*; but surely with the latter also we are born?). Nature, which in M. Bergson's metaphorical philosophy appears as a *demiourgos* much more distinct than God, and which plays very much the rôle of the Aristotelian *τάλη* or the Platonic *δέξαμένη*, is defined (337) as "the totality of complaisances and resistances which life encounters in brute matter". It cuts off, we may say echoing Bergsonian metaphor, a freshet from the river of life, and makes it stagnant and thus different from the original water. But the stagnant water (the specific nature) does not spring from the enclosing banks or from another source than the river. Only the *individual's* conduct or beliefs may derive either from one source (the stagnant pool) or from the other (the river or the river's source, God). Hence there is no *ultimate* dualism or two *ultimate* sources (47, 55). Nevertheless, when it comes to details one is baffled by a confusing Manichaeism. It appears that closed morality and closed religion as *characteristics of the species* are due, in their *whole being* (in their *thatness* and *whatness*) and not merely in their limitation, to nature, i.e. that the stagnant water springs from the banks. Thus M. Bergson explains away *the whole* (the *that* as well as the *what*) of primitive, natural or closed religion by reference to the natural mythopoeic instinct or the instinct of fabulation instead of saying that it is partly at least (in its *thatness* or *Dasein*) due to primitive man's instinct for God arrested and perverted by fabulation, i.e., that the closed has no independent source of its own, but from the beginning is simply an arrest of the open and would not have existed but for the latter. Similarly, he seems to think that dialectic has not merely a sort of dead life of its own but that it arose independently and not merely as an expression of mysticism, although he himself shows that Socrates, the father of dialectic, was *the* great mystic of classical antiquity. Should he not say that, as regards at least origin, *tout est mystique, mais surtout la dialectique est de la mystique*, thus agreeing with Plato?

It is strange to what un-Bergsonian lengths M. Bergson will go in order to establish for primitive or closed religion a separate

origin (fabulation). By implication he explains away through fabulation nature-mysticism, which some of us find as objective and authentic as Christian mysticism. And if you can explain away the former, why not also the latter ? But here the Nymphs and Satyrs have avenged themselves for the sacrilege, in laughter. For the philosophy of the primitive man reached by M. Bergson through introspection is, as might well be expected, very like his own (notably in the personification of the act). Hence he has explained away his own philosophy as the product of fabulation. Is he not in danger of doing the same by attributing to the latter magic in its entirety ? One thing in magic, surely, he ought to save : the claim to the possibility of an intuition into matter as being a kind of consciousness, an intuition which M. Bergson virtually says he himself has, and of a direct influence by consciousness over matter as over a quasi-consciousness, an influence which it is most important to allow to the mystic. For what ratiocination has ever proved the identity of the God whom philosophy conceives as Creator of the world (including what has become matter) and the God whom the mystic experiences as love ? M. Bergson's own ' proof ' is merely a piece of magnificent literary bluff consisting of the lively juxtaposition or interchange of the terms to be related (and we do not even know whether he thinks he has proved that the *élan* is God or merely that it comes from God). The mystic himself cannot speak from his experience, if that is simply of God's love as a power over himself only. But if he experiences the direct influence of the creative power, coming to him directly from God, not only over himself but through himself even over matter as over something remotely akin to his own consciousness and akin to God's love, he can speak. And speak he does. Has mysticism ever been without some kind of thaumaturgy ?

Altogether the chapter on anthropology (the longest), however interesting otherwise, does not philosophically advance the book very much. Instead of such a lengthy treatment of this subject, one would have expected some attempt on M. Bergson's part (an attempt made by the reviewer feebly and vainly) to relate his philosophy to traditional theology which, after all, is at its best an effort to reflect on that mystical experience which is with him so central, and on its problems with which he deals often so scantily. Two more deficiencies in this respect must be pointed out. That experience is usually said to be a participation in eternity. What the last word means we may not be able to say. The question is whether in M. Bergson's philosophy there is anything for it to mean. He suggests, though very tentatively (283), that the mystic eternity may turn out to coincide with survival after death, of which we have some indications from Psychical Research. But, even did it befit the philosopher of the life-impulse to look upon mysticism as a *meditatio mortis*, "*pour être mystique il ne suffit pas d'être mort*", one feels inclined to say misquoting Anatole France. (And, by the

way, why is only primitive man's and not also M. Bergson's belief in survival explained by fabulation ?) Secondly, if, as seems to be suggested, individuality is simply the result of interfering matter, why are we also told that the creation of individuality is the very essence of the mystic, of the *élan*, of God ?

I have been able to give only the most sketchy critique of the guiding notions of this book, some of them explicit, most of them unfortunately only implicit. Of its extraordinary wealth of concrete thought on psychology, on anthropology, on biology, on the history of philosophy and of civilisation, and on the future (salvation will depend ultimately on some great mystic arising), I have not been able to give even a hint. Criticism (this has been mostly an appealing from M. Bergson to M. Bergson, a supplementing of him by himself) is the only compliment one could pay to a writer of such distinction which would not be impudent. But ordinary praise, whether impudent or not, will out. The philosophy here examined, if not rigidly systematic, is intensely living and livingly expressed, a very image and embodiment of that *élan vital* of which it is the theory, destined to energise the most diverse thought in the future even as it has already done in the past.

P. LEON.

Integrative Psychology. By W. M. MARSTON, C. D. KING and E. H. MARSTON. London, Kegan Paul, 1931. Pp. xvi + 558. 21s.

PSYCHOLOGIES are of two kinds: 'central' and 'non-central'. The latter kind of psychology takes experiences and items of behaviour one by one, relates them to an environment, and then introduces some repetitive principle which is responsible for association, memory and recognition in experiences, and habit in behaviour, and the result is a film of experience and response with echoing tendencies. The associationist school, interested in thought, and the behaviourist school, interested in behaviour, are both of this type.

The 'central' kind of psychology is not satisfied that any series of experiences and responses can be accounted for simply by reference to stimulus + the power of association, and insists on some interpretative scheme, which gives 'meaning' to the members of the series. As might be expected, the suggested schemes are numerous; we have a system of instincts or drives, a 'personality plan', the aggressive and libidinous tendencies of Freud, and even the suggestion that the lives of individual men must be seen in the light of a supra-individual something. All these schemes have this in common: they all insist that an experience, or a piece of behaviour, is not to

be taken at its face value, but must be interpreted in the light of something else. The beads of the chain cease to be of paramount importance ; it is the pattern which matters.

The 'central' factor for the writers of this book is not a hypothetical urge, or a set of 'tendencies', which they would consider mysterious, but an active part of the nervous system, which, apparently, they do not consider mysterious at all. There are portions of the nervous system whose business it is to convey impulses to the centre, there are connector nerves, and there are effector nerves, but besides these there is a vegetative system which keeps going independently of variations in the environment, and whose activities are called 'self-activities'. "Reflex activities composing the self", they write (p. 143), "originate from stimuli manufactured exclusively by the subject organism, without reference to its state of adjustment or adaptation to environment."

This is the background of 'tonicity' on which stimuli play, with which they must come to terms, and which determine what response is to be made. Of course, such a scheme of neurological interpretation is as hypothetical as any other, and as mysterious.

In company with many distinguished psychologists, the authors of this book seem to think that a scheme which makes use of a term like 'nervous energy' is quite a simple, obvious affair, while if one speaks of 'instinctive energy' one is babbling mystical nonsense. Surely the concept of energy itself is merely a useful explanatory scheme which links up items in the field chosen for explanation ; and to those of us who are convinced that we only know about nerves at all by means of our 'minds' (whatever they may be), the notion of a hypothetical energy which governs the activities of hypothetical entities is as mysterious as any other hypothetical scheme of linkage. If the whole of physical science is ultimately based on psychical events, such as perception and reflexion, it seems a little odd to try to make psychology respectable by insisting on the application of nothing but physical or physiological concepts.

To the authors of *Integrative Psychology* the body and its reactions are the central features in the picture. They adopt the valuable hypothesis of a tonic background and then proceed to formulate an ingenious four-fold scheme of possible relations between in-coming stimulations and existing 'self-activities'. The self may be called upon to oppose or to ally itself with the stimulus ; the stimulus may increase or decrease the self-activity. Thus we have opposition + increase of activity, which is called the 'unit response' of 'Dominance', opposition + decrease of self-activity, which is called 'Compliance', alliance + increase of self-activity, which is called 'Inducement', and, finally, alliance + decrease of self-activity, which is called 'Submission'. These 'unit-responses' and their mixtures give rise to all the modes in which the organism will respond.

So far the scheme is merely a classificatory one, but that is not all. Besides the unit responses, which are responses to individual situations, we have states of preparedness of the organism, which are states of unrest, predisposing the organism to respond with certain typical unit-responses to certain kinds of environment stimulation. These are the 'Drives', of which there are three: hunger, erotic, and procreative.

In the hunger drive we tend to *comply* with that which will satisfy us in order to *dominate* it; we are the victims of the stimulus for which we are hungry, but at the same time we dominate our food when we eat it. This type of response is subsequently transferred to other objectives such as money and fame.

The erotic drive is complicated because it involves two organisms at once. There are two phases, passion and captivation, and in both the two individuals concerned try to ally themselves with each other, *submitting* to each other, and 'inducing' each other.

The procreative drive is a combination of the hunger and erotic drives, and consists of tendencies to 'origination' and 'transformation'. These involve complicated mixtures of *opposition* to and *alliance* with the objective. We *dominate* the environment in order to *ally* ourselves with our creation; we fight for the sake of something other than ourselves.

The ingenuity with which these four 'unit-responses' have been combined to account for all the responses of the organism is remarkable. As usual a simple scheme ingeniously handled illuminates the field, and new aspects of responses come to our notice when we view them in the light of the four-fold scheme. We have, further, a simple basis for characterology; we can divide people up according to whether they are acquisitors or lovers, takers or givers, or perhaps both—a duplex type, sometimes takers and sometimes givers.

Practically every interpretative scheme seems to be of value, and yet no one of them completely satisfies us. There are unique features in each which we cannot do without. This scheme which we have been discussing, for instance, gives no account of the kinds of problem with which the Freudian scheme deals. It is incomplete to dismiss the whole question by saying that we *comply* with the demands of society by repressing ourselves; the whole mechanism of repression is too complicated to be treated under such simple headings. Perhaps the perfect psychology will be multidimensional, and each event will be seen through several pairs of glasses at once; at present we have to pass from one pair to another.

But now a more difficult question must be raised, and it is to the credit of the authors that they do not shrink from it. We must ask to what the responses of 'dominance', 'compliance', 'inducement' and 'submission' are made.

When describing the responses of the alliance type, the authors write as follows: "If the mother returns to the playroom after several hours' absence and simply stands waiting for the child to

see her she is injecting an inferior allied activity into his central nervous system. . . . He may run to her and put his arms around her . . . " (p. 54). Some of the language is a little unusual in this connection, but the situation is familiar enough. What we have to bear in mind, however, is this: 'mothers' and 'playrooms' belong to the world of percepts, and (p. 375) "no such things as the actually *perceived* objects exist". We are, in fact, up against one of the great difficulties which beset any psychology which prides itself on its alliance with physics.

Even when they are treating of the nervous system, glands, brain and other important items of physiology, one has the suspicion that the writers have in mind what most people have in mind when they think of those things, namely, what one would see if one were to cut a body open and look inside. They then proceed to indicate that what they seem to have been talking about has no existence. The same is true of 'mothers' and 'playrooms'. It is so easy to talk about the child responding with delight at the sight of his mother's face, that 'physically minded' psychologists seem to forget that they ought to be talking of atoms and electricity.

A question which any psychology has to answer is: What is the status of the mental occurrence with respect to activity? The Behaviourists, of course, dismiss the question by saying that the mental occurrences do not exist, and we have the obvious reply to make, that we know perfectly well that they do. We must, I think, agree that 'cognising a situation as such and such' does sometimes occur, but what part, if any, does it play? It seems paradoxical to assert that it plays no part whatever, and if we say vaguely that 'something must be going on in the body somewhere which corresponds to it', the question still remains: do we mean, when we say this, that *it itself*, the mental occurrence apart from its correlate, is of no practical importance?

There seems to be a feeling, quite clearly shared by the authors of this book, that if one can connect these mental occurrences with hypothetical somethings going on in the brain, one is on safe ground. Once more it is a question of mysteriousness. For me it is the hypothetical something that is supposed to be going on in a hypothetical brain that is mysterious, and not the 'cognising of a situation as such and such' with which I am perfectly familiar.

Mr. Marston and his colleagues are familiar with it too, or they would not be able to write as intelligibly as they do about the child running to its mother in the playroom. They also agree that the problem of consciousness has to be faced, but they make their task much harder by taking away with one hand what they have given with the other. We must observe, they say, the strictest 'objectivity', by which they mean that we must eschew introspection. Their theory of thought "is not derived from subjective experience nor is it based upon introspective data; it is founded entirely upon the objective view-point. The objective data upon which it is built

consist of our present neurological knowledge of what occurs in the connector or correlation centres . . ." (p. 371). We shall see the nature of 'our present neurological knowledge' later on.

Of course, they are forced to give examples to show that their theory is adequate, and to our surprise, the examples are instances of perception, conception, thinking and so forth—'subjective' through and through. They are aware of the difficulty, and observe, somewhat nervously, "Illustrations like the above are, of course, subjective, and we cannot too often caution the reader against the view that our theory is based upon such subjective interpretations of experience" (p. 378). One would have thought that their appeal to experiences which everyone has, and which everyone understands, should make it clear that introspection is not such a hopeless business after all.

Granted, then, that we are going to pretend that we make no use of introspection, we now ask: where is consciousness to be found 'objectively'? Troland's view that consciousness is of a different order from that of the phenomena of physics is dismissed on the grounds that "Consciousness is treated as non-physical" (p. 333), so that we expect that it will be found to be physical. At once the question can be asked: where is it? If consciousness were non-physical, such a question would be meaningless.

We are not altogether surprised that the authors turn, quite illegitimately, to introspection as their guide in the quest for consciousness. They ask what attributes consciousness has, and they find that it has ten. These ten characteristics are not attributes of consciousness at all, but characteristics which are to be found when it is said that consciousness increases. When reflex acts are held up, when the rhythm of the stimulus differs greatly from the rhythm of response there is a great deal of consciousness; consciousness is influenced by drugs; "the greater the amount of consciousness the greater amount of fatigue"; and "the greater the consciousness the greater the ease of interference". This last attribute is illustrated by the example of a poet writing a sonnet. The harder his work, the more easily will he be 'put off' by the riveters on a building next door breaking "into a chorus of operation with their machines". The poet sits down in despair and proceeds to copy out some poems, and now he is less easily distracted, and also less conscious. There is a confusion here between the notion of concentration and the notion of consciousness, and whether there is any meaning in 'degrees of consciousness' at all seems to me to be very doubtful.

Having found indicators of increase of consciousness they go on to parallel them with functions of the synapse. "The greater the consciousness", for instance, "the greater the variability of the response", and synapses are responsible for mutual facilitation and conflict of impulses. Somehow or other consciousness is to be connected with synaptic activity.

Their general thesis, it will be remembered, is that there is a great deal going on in the organism with which in-coming impulses, have to cope. The stimulus sets up a process in the receptor, this travels along to a synapse, and such nervous energy as is allowed through the junction will proceed to the connector centres, where more integration occurs; then impulses pass to the motor side, where further integration takes place; and eventually a response is made.

There are thus three great occasions of integration, and at each point there are physical things which do the integration. "That part of the synapse that is energised during the passage of the nerve-impulse, we have proposed to call a *psychon*" (p. 313). The *psychons* allow certain impulses to pass, prevent others from passing, and relate impulses to one another. At the first intergation stage we have sensory consciousness, at the connector stage we have thought, and at the motor stage we have emotion.

"Sensory consciousness is thus regarded as synonymous with integrative activity of the psychons" (p. 337). 'My seeing of a red patch', for example, is *exactly the same as* 'my psychons allowing certain impulses to pass'. This proposition seems to me to be nonsense. A perceiving of a red patch is one thing, and the synaptic activities involved in letting a nerve impulse pass through is another, and it is absurd to say that the one is the same as the other.

When we reach the identity of thought and psychonic energy, the position is even more bewildering. When impulses have been allowed through at the sensory stage they reach the connector stage. Here they are liable to meet with "groups of typical correlation impulses passing in various directions through the correlation centres. The latter impulse groups . . . correspond to concepts, abstractions, and so on. . . ." 'Cognising a situation as such and such', then, is the *same as* the integration of an impulse coming from the sensory centres, with an impulse-group which happens to be "at any given moment in possession, as it were, of the correlation centres" (p. 377). How the right sensory impulses meet the right abstractions is admitted to be an awkward question.

It is, perhaps, a minor point that if the theory were true the book which states it is valueless. Presumably the authors believe that they are giving a true account of psychology, but if they are right, their book is merely the resultant of psychonic integration, and how one set of integrations can be 'truer' than another is hard to see. They are, after all, arguing a case, they are frequently indulging in abstract thought, but "Abstract Thought is the psychonic energy arising at the psychons where integration takes place between those groups of already integrated correlation impulses which themselves constitute Concepts" (p. 382).

Since the writers pride themselves on their objectivity, and show such contempt for 'mysterious' views about psychology, it is interesting, in conclusion, to see what they know about the psychons on which they build their theory of consciousness. On p. 115 we

read, "The junctional tissue within the synapse is called a *psychon*", but on p. 93 they write, "No one knows exactly what structures go to make up the synapse". "As to the psychons in the correlation centres there seems to be considerable doubt as to their exact nature" (p. 314). "The precise nature of the reactions of the synaptic tissue, or psychon, is not known" (p. 132). "In the psychon we have a mechanism which furnishes a type of energy different from, and more highly organised than, the other types of energy to be found in the organism" (p. 313). In fact we begin to suspect that very little is known about the matter at all.

The position seems to be this: the writers of this book are scandalised by the idea that consciousness is anything but physical, they are further scandalised by the psychologists who pay attention to introspective evidence. They therefore proceed to construct a thoroughly non-mysterious, objective psychology, and make a brave attempt to get consciousness into it. To find out about consciousness they make an appeal to the disreputable evidence of introspection, they identify it with the activities of hypothetical entities, the nature of which is wrapped in mystery, and whose energy is unlike any other energy, and finally turn to introspection again for confirmation of their theory.

"Go to the psychon and look for yourselves", one is tempted to say, "We have no dealings with mythical entities, and prefer not to be blinded by a mystical desire to be 'at one' with physical science."

W. J. H. SPROTT.

Aristotle. By G. R. G. MURE. London: Ernest Benn Ltd., 1932.
Pp. v + 282. 12s. 6d.

MR. MURE is to be congratulated on the really remarkable fullness and accuracy with which he has presented a complete account of Aristotle's philosophy in the moderate compass of some 280 octavo pages. When one thinks of one's own days as a "Greats man" at Oxford, one cannot help feeling a little envious of one's successors who have the good fortune to have two such works as Dr. Ross's book and Mr. Mure's as guides to Aristotle's meaning, where we of my time had only Zeller. This must not be taken as an expression of ingratitude for Zeller's admirable labours; but the style of the eminent historian, not in itself very alluring, is even less so in an English version. And somehow, I think, the *Aristotelische Weltanschauung* is much more of a live thing, into which the student can think himself, in the hands of Dr. Ross and Mr. Mure than it appears to be in the *Philosophie der Griechen*.

Before I say anything about Mr. Mure's study of Aristotle's philosophy, I may make a few remarks about some of the contents of the first chapter of his Part I., dealing with the philosopher's personal

history, and the two historical chapters about the subsequent fortunes of Aristotelianism and the present position of Aristotelian studies which constitute Part III. of the book. I shall inevitably have to mention chiefly matters about which I think the writer's statements might be disputed, but I trust it will be understood that this implies no want of appreciation for the way in which his task has been fulfilled. It is because I think the work has been done so well that I put together a number of minor points which, I think, might be reconsidered when the book reaches its second edition. Should Aristotle's birth-place be called on page 1 *Stagira*? Was not the form in use in the fourth century *Stagirus*? And is not the judgment of page 5 that Alexander's conquest of Persia was hardly consistent with Hellenism at least disputable? After all, Isocrates, the most prominent Panhellenist publicist of the century, held the opposite view, and it seems to me that the history of events from the time that Persian satraps came to the front in the course of the 'Declean War' onwards, goes to show that he was right. I could wish again that on page 6 Herpyllis had not been described as Aristotle's "mistress". True, the relation between them was not in Attic law a *γάμος* as no such relation between parties without citizen-rights could be, but they were as completely "married" as their status allowed them to be, and it is a pity to describe their relation by a word which, in modern English, always implies the taint of the sordid. If we are not to say "wife," "concubine" would be more in place, as the name for a status about which there was nothing discreditable in the ancient world. "Mistress" is rather *έραπα* than *παλλακή*. "Well as he knew the world," says Mr. Mure of Aristotle on page 7. But did he? The reading of the *Nicomachean Ethics* has always left me with the suspicion that one of the differences between Plato and his successor was that Plato went for his knowledge of men and women to the book of life, Aristotle to a collection of stage-plays (like some modern philosophers who seem to depend on novels for their information about mankind). And I think there is a good deal in Burnet's remark that Aristotle seems never to have suspected that his position at Athens depended entirely on the Macedonian regent Antipater.

I should similarly like to urge reconsideration of one or two statements in Chap. XI. Whatever the truth about Strabo's story of the cellar at Seepsis may be, I do not see that the tale can be simply dismissed as "absurd" (p. 234). The cause assigned for the concealment of Aristotle's MSS. strikes me as a highly probable one, and the facts about the editing of the works at Athens must have been fairly well known. I am not sure how much or little is meant on page 235 by the statement that Boethius was by no means a 'dogmatic Christian'. There is at least no doubt about the fact that he provided the classic formulation of the statement of the two principal Christian dogmas, those of the Trinity and the Person of Christ, and I do not think any stress can be laid upon the absence of

specific Christian dogma from the *Consolation of Philosophy* which deals with issues which are not peculiar to Christianity, and was—as the late Adrian Fortescue rightly insisted—not composed in the prospect of death. I think, again, that in what is said about the study of Aristotle among the Neo-Platonists the immense influence and importance of the commentaries of Simplicius is hardly sufficiently recognized, and that not enough weight is laid upon the way in which, from the time of Plotinus onward, Aristotle's works were used by the schools as a sort of surrogate for Plato in all departments of 'natural science'. The account of mediaeval Aristotelianism is avowedly not given at first hand, and this makes me bolder to venture some suggestions for reconsideration. Avicenna—a Persian Moslem—should hardly have been spoken of as an "Arab" (p. 236). And if Berengarius of Tours was to be mentioned at all, he should not have been spoken of (p. 238) as "trying his skill" on the 'dogma' of Transubstantiation. There was no such 'dogma' for him to try his skill upon; it was only as the outcome of the disputes raised by his controversy with Paschesius Radbertus that the mode of the presence of Christ in the Eucharist became a subject for definition and dogmatic pronouncement. Similarly, there are a number of statements in the, often excellent, account of thirteenth century philosophy which should, I think, receive modification. "Conservative Augustinianism" (p. 241) is far from a happy description of the position of Bonaventura; the precise philosophical significance of Siger is still very doubtful, and will remain so until the whole of his numerous recently discovered writings have been published and studied, and the famous condemnation of the Archbishop of Paris was directed against characteristic Thomist, as well as against "Averroist" theories. I very much doubt, again, whether it is not wholly misleading to say curtly (p. 246) that Duns Scotus was "Augustinian" in a way which implies that he was less Aristotelian than St. Thomas, or whether Roger Bacon is rightly to be characterized as a 'rebel,' unless it is added also that, in view of his ultra-Augustinian Illuminism, he was a 'reactionary' too. I think Mr. Mure would feel this if it had happened to him, as to me, to work through all the Oxford publications of his *Opera* as they have appeared.

The concluding chapter on present-day Aristotelian studies seems to me a lucid, balanced, and excellent piece of work, and has the great merit of enabling the student to learn in a few pages the precise position of the question about the development of Aristotle's thought raised by Jaeger and his pupils. I would, however, just make one or two remarks about particular points. It is true, as is remarked on page 253, that conjectural emendation has not much scope in the text of Aristotle. But might it not be added that the reason is not that the *ipsissima verba* of Aristotle have been so faithfully conserved, but the very contrary? It is just because we cannot get behind the editors of Roman times who made our

“Aristotle” for us that conjecture does so little to help us out of difficulties. The reference to von Arnim’s defence of the *Magna Moralia* in the note to page 263 suggests the question whether M. Mansion’s careful examination of von Arnim’s arguments has not settled that particular question in favour of Jaeger. And with reference to what is said on page 267, I would urge that no inferences about the date of different “strata” in the *Politics* can safely be based on the omissions in Aristotle’s account of the *Laws* in *Politics B*. Ought it not to be evident that the purpose of the chapter is not to review the *Laws* as a whole, but merely to comment on certain points in which the *Laws* differ from the *Republic*? (What Aristotle wants to urge against Plato in principle has already been said in connection with the *Republic*; the remarks about the *Laws* would, in a modern work, be relegated to a “supplementary note”.)

Turning to the main substance of the book (Chaps. II.-X.), I have little but unqualified praise for the thoroughness and accuracy with which Mr. Mure has expounded every side of Aristotle’s thought in Chaps. V.-X., and traces its affiliation to Plato, and through Plato to earlier philosophy, in Chaps. II.-VIII. If a faint “grouse” is permissible at all, I would hint only at two possible defects. Plato is seen perhaps a little too much, as is natural when the observer is a “Greats” lecturer, through the medium of the *Republic*. I cannot help feeling that too much, at least for a work which professedly deals with something other than the exegesis of Plato, is made of the “divided line” and the “Form of Good”, and speculation as to the precise way in which Plato meant these passages to be interpreted. After all, the *Republic*, I believe, does not count for so very much in Aristotle’s treatment of Plato. He was evidently tremendously impressed by the *Phaedo*, and the whole of his thought on ethics and politics has its roots in the *Laws*; the *Republic* hardly prompts him to more than a “common-sense” remonstrance against tampering with the family and with private property, and a rather perfunctory “smashing” attack on the Form of Good. The *Philebus* has contributed far more to the making of the *Ethics* than the *Republic*, and it is important that the “Greats” man should be made alive to this, since he reads the *Republic*, and commonly does not read either *Philebus* or *Laws*.

I own again to some doubts about the entire suitability for the student of the order Mr. Mure has followed in his exposition of Aristotle, though I hesitate to differ from a writer who has the full courage of his convictions in the matter, and, no doubt, would be able to make an excellent defence. Mr. Mure elects to follow the general lines of the arrangement of the *Corpus Aristotelicum*. This means that he begins with Cosmology, proceeds through Biology to Psychology, Ethics and Politics, then to “Theology” in the Aristotelian sense, and postpones Logic and Epistemology—this is the one startling departure from the order of the *Corpus*—to the very end. Now I can see that there is much which may be said for this pro-

cedure ; the very name given by the editors to the discussions on "first philosophy" may be urged as a reason for holding that they presuppose a general acquaintance with physics. But it is an uninviting task for the student of the history of philosophy to be set to work through a conspectus of Aristotle's views on "chemical composition", histology and the like before he comes in reach of the guiding central ideas which make his thought a coherent whole, so far as it is one. And Mr. Mure himself, in a way, recognizes this. To make Aristotle's relation to earlier philosophy intelligible at all, he has to start his Part I. with an account of the doctrines of *potentia* and *actus*, and of the "four causes". Thus it might be said that, after all, he finds himself forced to begin with principles taken from "first philosophy", detached from their context, and that the arrangement, by which the whole natural and "practical" science is inserted between one chapter of "first philosophy" and the rest is anything but natural. On the whole, I think I should myself sympathize with this view that the method Mr. Mure has adopted reveals a deficiency in "architectonic", and it is about the only serious defect I find in his very able and very accurate digest of Aristotelian doctrine.

Mr. Mure's criticisms of Aristotelianism are properly subordinated to his task of exposition ; the only section of his work in which this subordination is not very strictly carried out is the rather unsympathetic account of Aristotle's logical doctrine. In the main the criticisms are those which would be expected from a teacher in the University of Bosanquet. Once, I own, I am set pondering, when it is implied that Aristotle's great failure is that he cannot combine a "hierarchized" world with one in which "the whole" is *totum in toto et totum in qualibet parte*. Are the two points of view compatible ? Must we not choose between them ?

The printer has played Mr. Mure an unhappy trick on page 10, where he perverts the meaning of a sentence by giving ἐνέργεια (impossibly accented) for ἐνέργεια. He has also made him, on page 46, refer a familiar passage of the *Republic* to the wrong book (X. for IX.), and on page 137 has perpetrated the horror *Nichomachean Ethics*. Otherwise the type and printing are excellent.

A. E. TAYLOR.

An Idealist View of Life. By S. RADHAKRISHNAN : being the Hibbert Lectures for 1929. London : George Allen & Unwin, 1932. Pp. 351. 12s. 6d.

PROF. RADHAKRISHNAN needs no introduction to the readers of MIND. He is recognised as one of the greatest of Indian philosophers, and especially as the best of all interpreters of Indian thought to Europe and of European thought to India. He is well known to English readers, not only for his great *History of Indian Philosophy*,

but also for his books on *The Philosophy of Rabindranath Tagore*, *The Philosophy of the Upanisads*, *The Hindu View of Life*, and other occasional writings. The present work, however, is the most complete and independent statement of his views about human life, religion, and the general nature of reality.

He begins with a general account of the meaning of Idealism, giving references especially to the Upanisads, Plato and Hegel. What he is chiefly anxious to emphasise is that what is to be understood by Idealism is not Subjectivism. It is rather the recognition of the fundamental importance of Value. 'An idealist view', he says (p. 15), 'finds that the universe has meaning, has value. The fountain heads of the Vedas, including the Upanisads in the East, and Socrates and Plato in the West, set forth this creed in broad and flexible terms. The realistic systems of Hindu thought . . . are not in serious disagreement with the fundamental intention of the idealist tradition . . . viz., the inseparability of the highest value from the truly real. . . . In the West, from Socrates and Plato to Bradley and Alexander, the idealist outlook of an ultimate connection of reality and value is maintained.' He states in a note that he mentions Alexander advisedly 'to show that the modern opposition between realism and idealism in epistemology has little to do with the main problem of idealism'. With this, I suppose, most readers of MIND will agree. It may be thought that he goes a little too far when he adds that 'even absolute materialism is idealism, though of a crude kind, for the matter to which all existence is reduced is not a concrete actuality but an abstract idea'. As Hegel would say, it is just its abstractness that prevents it from being interpretative. I think it is important to remember that the idea of Value is not, properly speaking, abstract. It can only be interpreted in relation to a concrete system. But Radhakrishnan does not, I think, mean to deny this. His object, in the opening chapter, seems to be rather to shew that no explanatory principle can be got by abstraction. He takes Behaviourism as an illustration of the attempt to explain man by leaving out his humanity—i.e., his apprehension of values. Psycho-analysis is referred to as an illustration of the same tendency—viz., the tendency to seek for explanations by resolving concrete experiences into their constituent parts, thus omitting the values that can only be found in the whole. 'Psychologists', he says (p. 34), 'are interested in the discovery of the conditions that lead to the acceptance of fancies as facts, but not in their truth value'. 'Man's helplessness in the presence of nature makes him look up to supernatural sources of power and blessing. We adopt religion for its practical efficiency, and not for getting into relation with the supreme spirit as the embodiment of the highest perfection.' The result of this tendency in modern thought is to substitute subordinate ends for the conception of a supreme purpose. In this connection Bertrand Russell is specially referred to (pp. 58 *sqq.*). His paper in the *Hibbert Journal* (Oct. 1912) is quoted, in which he expressed the view that the future religion will consist of two parts—a worship of the ideal

conceived merely as the ideal, and a worship of the actual merely as actual or existent. He exhorts us to 'cherish, ere yet the blow falls, the lofty thoughts that enoble our little day'.

As against such views, Radhakrishnan urges (p. 56) that 'the real is not so unsatisfying as we are asked to believe. . . . The world contains wonderful achievements of man, his heroisms and beauties, his imaginations and inventions. . . . Even if the order of the world is created by our minds, our minds are a part of the universe'. 'The judgment on the world is passed on the unconscious assumption that the pleasure of man is the end of life.' 'If we look at life as it is without ignoring or exaggerating any of its tendencies we shall see that this stupendous movement is not at work for our private benefit. It has its own vast design, which it is seeking to fulfil, compared with which our private aims are petty.' And Radhakrishnan goes on to urge that, even if we go beyond our individual aims and take the welfare of humanity as our ultimate end, we cannot see, in any direct way, that the cosmic processes have any definite tendency to promote this end. 'Humanism', he says (p. 71), 'leads to a view of itself as rooted in a reality deeper and more comprehensive, in which it finds its completion'. 'When Professor Whitehead', he goes on (p. 88), 'defines religion as "what the individual does with his own solitariness", he is urging that it is not a mere social phenomenon. . . . It is something inward and personal which unifies all values and organises all experiences. It is the reaction of the whole man to the whole reality. . . . The spiritual sense, the instinct for the real, is not satisfied with anything less than the absolute and the eternal.' In this unifying experience, he says (p. 93), 'the tension of normal life disappears, giving rise to inward peace, power and joy. The Greeks called it ataraxy, but the word sounds more negative than the Hindu term "Sānti" or peace, which is a positive feeling of calm and confidence. . . . The continuance of such an experience constitutes dwelling in Heaven, which is not a place where God lives, but a mode of being which is fully and completely real'. This experience, he proceeds (p. 95), 'is felt as of the nature of a discovery or a revelation'. 'Doubt and disbelief are no more possible. He speaks without hesitation and with the calm accents of finality. Such strange simplicity and authoritativeness do we find in the utterances of the seers of the *Upaniṣads*, of Buddha, of Plato, of Christ, of Dante, of Eckhart, of Spinoza, of Blake'.

It is evident from all this, and from much more that might be quoted, that Radhakrishnan does not base his conviction of the truth of religion on pure reason, but rather on certain modes of intuitive apprehension. Some readers will probably be repelled by this attitude of mind from the outset. I am inclined to think that the antithesis is at least too sharply drawn. It is probably true to say that the conviction of religious truth cannot be arrived at by rational deduction from particular premises; yet the inclusion of Plato and Spinoza among the seers seems to suggest that reason may play an important part in leading us to the idea of the Divine; and

I think it is clear that Radhakrishnan does not mean to deny this. What he seeks to emphasise, if I understand him rightly, is that rational proofs have to be supplemented by what he calls 'creative intuition'; and it may be well now to consider, as definitely as possible, what he means by this. So far as I can see, he means by it very nearly the same as what Mr. Douglas Fawcett means by 'creative imagination' or 'consciring'. Radhakrishnan prefers to avoid the term imagination, because he regards it as concerned with what is unreal (p. 179). Surely this is not necessarily the case—e.g., in Shakespeare's imaginative reconstruction of history, especially Roman history. Indeed, Radhakrishnan does to all intents recognise this, especially on pp. 184-185 and 192-193. He says, on p. 206, 'Wherever there is genius, ardour, heroism, there is the creative spirit at work'. Again, he says on p. 212, 'Creation is the result of the growth of self, the expansion of consciousness. For this we want religion as an uplifting power and not as a confession of belief or a demonstration of God. Religion is not science nor is church an academy. It is the perception of the eternal in the finite'. It does not much matter whether this is called intuition or imagination or insight. At least it is not merely what Wordsworth referred to as the 'meddling intellect'. What Radhakrishnan emphasises about this is, I think, the most convincing and valuable part of his work.

He proceeds afterwards to emphasise the significance of recent scientific developments as helping to dematerialise the universe in which we live. Here we are on ground that is somewhat more familiar to Western thought; and there is not much that calls for special notice in this part of the work.

'If God', he says (p. 221), 'is the whole reality which intuitive knowledge affirms, still, as Aristotle told us in his *Poetics*, no object is a whole which is not logically coherent. Discovery becomes proof when what is revealed by intuition is confirmed by the slower processes of consecutive thinking. We have now to show that the general character of the universe as known is quite consistent with this intuited certainty of God. It is the only way by which religious truths can be recommended to the large majority of people for whom religion is a matter of trust and inference. It is the only way to defend ourselves from uncriticised intuitions and dogmatisms which are prepared to find whatever they want'. Accordingly, he proceeds to give an account of the modern views of the material universe, especially as set forth by Eddington and Jeans. The general nature of these views is well known and need not be discussed here with much detail. 'It is necessary', he says (p. 223), 'to know the limitations of scientific knowledge. It gives us quantitative measurements of events in the world we live in. It is controlled by the maxim, "nothing can be known completely except quantities or by quantities". Science is at home in processes that can be repeated, in systems that can be reproduced. "Everything is itself and not something else is the principle of nature; everything is an example of a class is the principle of science."'

'Hindu thought', he goes on (p. 225), 'is generally associated with the theory that the world is *samsara*, a perpetual procession of events'. 'Buddhism took over this conception of *samsara* from Hindu thought, and put it at the centre of its scheme. For it being only process, a continuous alternation of birth and death, a perpetual transition from one thing to another.' He proceeds to point out (p. 227) how closely this view connects with the latest scientific theories about the constitution of the material system. 'Matter is not any more a close densely packed stuff, but is an open structure with large empty spaces and scattered electric charges.' 'The electrons seem to be mere wave forms. If we suppose that they are more than associated groups of radiations, we are drawing upon our imagination.' Thus we are led to agree with Hegel in thinking that the conception of Substance cannot be taken as final. 'If independence of existence is the mark of substantiality', he says (p. 237), 'no finite particular is a substance, though we can mark off any set of events as an individual for conventional purposes. Matter is the name for a cluster of events, possessing certain relatively persistent habits and potencies'.

He goes on to urge, again in agreement with Hegel, that 'the conception of cause also requires revision. . . . The causal concept seems to imply that the world is a collection of distinct things which it is not'. 'We cannot speak of causes, for there are no causes, but only causal laws, selected uniformities of sequence, observed laws of succession. Events are connected and causal laws tell us of the correlation of events.' Thus Hume is vindicated against Kant (p. 238).

So far, Radhakrishnan would seem to be in agreement with Eddington. He goes on, however, to urge that the criticisms that have been passed on the causal conception do not justify a pure indeterminacy. 'While we can sympathise', he says (p. 246), 'with Eddington's anxiety to mentalise the experienced world which cannot be reduced to equations of physics on the ground that chance, contingent actuality and indetermination are characteristics of mental phenomena, it is difficult to ignore those persistent aspects of experience which refuse to be reduced to mere sentience. A stone is not a self any more than a self is a stone. . . . Matter and mind both belong to nature, but matter is not mind. Its otherness to mind is unaffected, however much it may be etherealised'. 'The freedom of man is not helped in any way by freaks within the atom. To suggest that electrons possess free will is to degrade freedom itself.'

He sums up (p. 248) the general characteristics of the physical world, as interpreted by modern science, in the following way:— '(1) What was regarded as a passive immutable particle is now known to be a complex system of seething energy. An atom is an organism whose members are protons and electrons. Molecules and human societies are more complex organisms. (2) Physical nature is an ordered whole and operates as such, and its members are interdependent. There is thus an interactive union between every organism

and its environment. (3) Every event has both caused and creative aspects. Its changes are thus transmechanical. (4) Scientific explanation finds its limits when we reach the creative side. Science cannot explain why matter should exist, nor why there should be two species of electrons and protons'.

When we pass to the facts of life, we have again to notice a great advance. 'An atom' (p. 250), 'can neither mend itself nor reproduce itself. A living organism adapts itself to its environment. . . . As soon as a living organism is injured, a healing process sets in. . . . There is a specific inner direction in living organisms which grow, repair, reproduce themselves, and mould the outer circumstances into their own patterns. What we know of matter does not help us to understand the co-ordinated maintenance of life. Life is a different order of fact'. In connection with this, he goes on to give some account of modern theories of evolution. But 'evolution', he says (p. 257), 'is no explanation. It does not say why the process should ever have occurred, why life should occur at all. . . . A strict science of biology merely notes the facts that in life we have a different order of phenomena and novelties occur right through . . . and that in fact the whole organic kingdom has suffered a gradual evolution, moulded by inner urge and pressure of outer circumstances'. 'We cannot (p. 261) reduce psychology to physics or physiology. While the conscious arises from or emerges out of the vital or the biological, it is as real as the biological, from which it emerges, and represents a kind of interaction with things different from the vital'. In this connection, he criticises the behaviourism of Prof. Watson; and the criticism is continued in the following chapter.

He proceeds, however, to note (p. 274) that 'there is a tendency, especially in the West, to over-estimate the place of the human self. Descartes attempts to derive everything from the certainty of his own isolated selfhood. It is not realised that the thought of the self which wants to explain everything, the will of the self which wants to subjugate everything, are themselves the expression of a deeper whole, which includes the self and its object'. He might perhaps have noted, in this connection, that the tendency here referred to was, to a large extent, corrected by Descartes himself and some of his followers, especially Spinoza. But Radhakrishnan thinks that it is more thoroughly corrected in Indian philosophy; and he goes on to explain, in this connection, the meaning of the term Karma. 'All things in the world', he says (p. 276), 'are at once causes and effects. They embody the energy of the past and exert energy on the future. Karma or connection with the past is not inconsistent with creative freedom. . . . Though the past may present obstacles, they must all yield to the creative power in man in proportion to its sincerity and insistence. The law of Karma says that each individual will get the return according to the energy he puts forth'.

This leads to a consideration of the meaning of human freedom—a subject that has recently been discussed at great length by Hartmann

in the third volume of his *Ethics*. Radhakrishnan deals with it here in a much more summary fashion. 'Faith in Karma', he says (p. 280), 'induces in us the mood of true justice or charity which is the essence of spirituality. We realise how infinitely helpless and frail human beings are. . . . In Greek tragedy man is held individually less responsible and circumstances or the decisions of Moira more so. . . . In Shakespeare again, we see the artist leading on his characters to their destined ends by what seems a very natural development of their foibles—criminal folly in Lear or personal ambition in Macbeth. . . . The capacity of the human soul for suffering and isolation is immense. Take the poor creatures whom the world passes by as the lowly and the lost. If only we had known what they passed through, we would have been glad of their company'. All that he says about this is interesting; but I think he tends to underrate the power of reflective choice that human beings possess. We are surely not so much at the mercy of circumstances as he tends to represent us as being.

Reflection on such problems leads naturally to the consideration of the question of human survival, and this is discussed at considerable length. The view that he adopts is that which is very commonly accepted in India and which has gained some degree of popularity in this country, chiefly through the powerful advocacy of McTaggart, *viz.*, the doctrine of reincarnation. The objection that naturally occurs to it is that, in the great majority of cases the mental and moral qualities of the people whom we know at all intimately seem to bear nearly the same sort of relation to those of their ancestors, immediate or more remote, that their physical characteristics have. This is in most cases so obvious that any other account appears fanciful and far-fetched. Even so unique a genius as Goethe, who might have been supposed to be a reincarnation of Shakespeare or some other great man of the past, was very emphatic about his inheritance from his immediate ancestors :

‘Vom Vater hab’ ich die Statur,
Des Lebens ernstes führen;
Vom Mütterchen die Frohnatur
Und Lust zu fabuliren.’

Of course, this does not exclude the possibility that some of his deeper characteristics may have had a different origin. He owed a good deal, no doubt, to the speculative thought of his contemporaries; but there does not appear to be any ground for regarding him as a reincarnation of any one else. The only definite evidence that seems to exist for reincarnation is of the kind that is quoted from McTaggart —*viz.*, a case of apparent memory of some previous acquaintance with a particular individual when met for the first time in the present incarnation. Surely such apparent memories might be explained by some resemblance to another individual previously known—perhaps in childhood. At any rate, it seems a very slight foundation for so far-reaching a supposition.

Moreover, we have now a well-established view of survival of a different and much more intelligible character. Of this Radhakrishnan is aware ; but apparently he has not had an opportunity of investigating it, and he tends to set it aside (*e.g.*, on p. 79) with contempt. According to modern psychical research, reincarnation may be one form of survival ; but it is generally thought, at least in this country, to be a comparatively rare form. The more usual form of survival is believed to take place in some other world, the locality of which appears to be unknown. There are thus considerable grounds for doubting whether reincarnation can be accepted as the only or even as the main form of survival. But the view that there is survival in some form appears to be more firmly established in the present generation than in any previous one.

In his closing chapter Radhakrishnan deals with a great variety of topics, including the views of Smuts, Alexander, Lloyd Morgan and Whitehead on Evolution ; but it is not possible here to do more than refer briefly to the final statements about God and the Absolute. Throughout the earlier chapters these two terms seemed to be used as synonymous ; but here God is more definitely conceived as the creative aspect of the Absolute. So conceived, He has to be regarded as finite. Apparently, He is not to be supposed to know how His creatures will behave. In this, of course, Radhakrishnan is in agreement with many other writers ; but I had hoped that his treatment of Choice in an earlier chapter would have enabled him to form a less agnostic conception of Deity. A second-hand creator, such as Shakespeare, may sometimes not quite know how his characters will behave in particular situations. I believe Thackeray was sometimes surprised by the sayings of some of the persons in his novels. But I should have thought that a Creator at first hand could hardly be supposed to have any similar ignorance. Of course, the object of this ascription of ignorance is to guard against the view that God is to be regarded as, in any way, responsible for evil. But, if evil is a necessary condition for some forms of good, as it seems clearly to be, why should we hesitate to ascribe its origin to Deity ? In a previous chapter (p. 308) Radhakrishnan expressed approval of the saying that life would be 'exceedingly flat' if there were 'nothing whatever to grumble at'. Would it not also be somewhat empty if there were nothing that needed to be put right ? Surely it is not a subject for complaint that some of the work of creation is left to us ; and surely the fact that it is so left need not be taken as implying any limitation in the knowledge or power of Deity. But it may be that I am misrepresenting Radhakrishnan's view about this. At any rate, I should be sorry to conclude my notice of his very brilliant book with a suggestion of disagreement. I have found his work exceedingly interesting and instructive, and I cannot doubt that many other readers will find the same. Its Oriental flavour, combined with a thorough appreciation of Western thought, give it a peculiar charm of its own.

J. S. MACKENZIE.

VII.—NEW BOOKS.

Méditations Cartésiennes: Introduction à la Phénoménologie. Par EDMOND HUSSERL. Translated from the German by Mlle. G. PEIFFER and M. E. LEVINAS. Paris: Armand Colin, 1931. Pp. vii + 136.

In 1929 Husserl gave at the Sorbonne four lectures entitled *Introduction to Transcendental Phenomenology*. The present volume is a translation of a work based by Husserl on these lectures, which has not been published in the original German. It is a condensed exposition of his philosophy, both in its method and in its general results. Though condensed, it is elaborate; its argument is expressed throughout in his own peculiar terminology (the translators show considerable ingenuity in finding equivalents, while scrupulously printing all the originals), and it teems from beginning to end with definitions and distinctions. This does not make for easy reading, but we may say at once that it is emphatically a book to be read both by those who are already acquainted with Husserl's work and by those who are not.

Any adequate treatment of it within a short space is impossible. We may here confine ourselves to what is suggested by the title—the relation of Husserl's method to that of Descartes. Both have in common the method of doubt—called by Husserl *ἐποχή*, or suspense of judgment, admitting only such certainty as arises in and through the doubt itself. For both the fundamental certainty of existence which emerges even in doubt is the real existence of the thinking process and, by implication, of the thinker as such. Here, however, comes what Husserl considers to be the main divergence between his own procedure and that of Descartes. The self discovered by the method of doubt is for Descartes a thinking substance belonging to the natural world which it finally comes to know; and he discovered it only to leave it, using it as the starting-point of a causal argument. Husserl's primary interest, on the other hand, is in the thinking self as a field to be investigated for its own sake, but he insists that the self revealed in doubting the world cannot belong to the world it doubts; it is a transcendental self, and as such is a possible subject for a systematic investigation which may be prolonged indefinitely without raising the question of the existence of the natural world. Thinking (*cogitatio*) as a process involves not only a thinker but contents or objects of thought as such (*cogitata*) in all their infinite variety and in all their distinctions and relations, as they gradually emerge or are capable of emerging within the thinking process. What Husserl calls the phenomenological method consists essentially in a descriptive analysis of these contents of thought as such, and of their systematic interrelation. But he has sooner or later to face what is for him, as for Descartes, the great difficulty of finding ground for asserting real existence other than that of the thinking process and its contents *quā* thought. At this point a very

fundamental question arises, which is never faced by Husserl. The Cartesian doubt as Descartes formulates it rests on an assumption which is itself not called in question, but taken for granted. Descartes would admit the validity of the formula *Cogito ergo cogitata sunt*. But he takes for granted that the being of the *cogitata* is entirely dependent on the process of thinking and can have no existence distinct from it. The *cogitata* are just mental representations, and the problem is to show that there are real existences—e.g., God or the external world—resembling or corresponding to these representations. In other words, he starts by assuming, without realising that he is making an assumption, the representative theory of knowledge. Does Husserl make the same assumption? His language is misleading and ill-chosen if he does not. He seems, indeed, to admit the possibility that the content of thought may have a real existence apart from the thinking process, but it is quite clear that for him the being primarily known is only being for thought. The primordial stage (primordial logically if not chronologically) is a sort of Solipsism, which does not recognise itself as such because for the self there is no world and no other minds from which it can distinguish itself. The world of ideal contents or *intentional phenomena*, as Husserl calls them, is initially for the individual the all-inclusive universe. This is the Cartesian position also, and for both it is a position from which they must somehow find a way out. But, according to Husserl, his way out is essentially different from that of Descartes. Descartes takes the existence of the self as the premise for a deductive argument based on the principle of causality. Husserl, on the contrary, makes no attempt at any such deductive argument and is, indeed, debarred from doing so by his view of the self as transcendental. He proceeds entirely by descriptive analysis of the contents of thought or *intentional phenomena* as they develop within the thinking process. He tries to find in this way, and holds that he has succeeded in finding, certain objects of thought of such a nature that their existence cannot merely consist in being thought of. If they exist at all, they must have an existence independent of the thinker. He also holds that in the nature and course of our experience we have ground for asserting that they do exist. What are these thoughts in us which imply a corresponding reality beyond us? They are not, according to Husserl, in the first place the thoughts of external objects—of bodies in space—but the thoughts of minds other than our own. Here he has first to explain how even the thought of another mind is possible for the individual. He does this by pointing out that the knowledge we have of our own mental process includes not only what actually occurs or is thought of, but also what might have occurred, or might occur. We can think of all sorts of possible variations within the process of our experience. We can therefore think of a possible variation in the course of our whole mental life. This means, according to Husserl, that we can at least think of a self other than our own. What remains to be shown is that we have ground for asserting the real existence of such selves. Husserl deals with this question elaborately, but his central point is that we reach the knowledge of other selves through the apprehension of bodies like our own in appearance and behaviour. These bodies themselves are not supposed to have any existence except as appearances to us. But in apprehending them we supplement the given appearance by a context and relations supplied through the experience of our own body. We think of them as related to a mind as our own body is related to our own mind. But since this mind is not ours we must think of it as another mind. And the fact that the behaviour

of the other bodies is inexplicable except on this view, and that this interpretation of their behaviour is being constantly confirmed by experience, constitutes the proof of the existence of other minds. But when we say that other minds exist, we cannot mean that they have merely intentional existence. Objects other than minds may have being merely for thought; it is not possible, Husserl maintains, without contradiction, to think of minds as having being only for thought. If we think of them as existing, we must think of them as existing independently of our thinking process. It follows that the real existence of the bodies connected with other minds depends on the existence of the other minds. For the above proof, it will be seen, proves no other existence for the bodies connected with other minds than the part they play within the experience of other minds, and the same holds good for other parts of the material world. Hence, Husserl's final view is monadistic. The existence of bodies is included in the existence of minds, and their external existence for the individual means no more than that they are the common property of the community to which he belongs.

The difficulties of this sort of procedure have often been pointed out. They are indeed such as to make it hard even to state the argument unambiguously. The thought of other minds, on Husserl's own showing, is itself only the thought of a possible variation of our own mental processes. It is hard to see how he can establish their existence in any other sense. If I see another body of the same general type as my own, and behaving in a similar way, this may suggest the thought of what my own experience would have been if that body had been mine. And this is all that seems logically to follow from a position in which our own mental process and its contents are supposed to be the whole real universe. The case would be different if we could suppose that other bodies are apprehended from the beginning as having an existence independent of our own mental processes; but this is an assumption which Husserl expressly excludes.

If this criticism is justified, how does it otherwise affect the general value of Husserl's method and results? It is perhaps Husserl's own account of his method which is affected, rather than its actual working in many directions. Let us abandon the conception of a primordial stage in which for the experiencing subject all being except psychical existence is merely being for thought. Let us suppose instead that in all our thinking we are concerned and know ourselves to be concerned with objects which have a being and nature of their own independent of their being perceived or thought of. Such objects will not, because of their independent existence, thereby cease to be objects of thought—*i.e.*, they will still have intentional being, though never merely intentional being. Now it is possible and useful to consider them expressly in this intentional aspect and to enquire what is presupposed by it or involved in it. We may try to find what it is in the general nature of the objects of thought that makes them capable of being objects of true and false judgments, and indeed makes the distinction between truth and falsity possible; and we may do this for the universe in general as well as for special departments of it. We may make this enquiry even though we recognise that the general nature of the object which is presupposed in the very distinction between true and false judgment concerning it must itself be beyond the range of doubt. Both truth and falsity are relative to a real being which must be present to the judging mind, however indeterminately; and if we push doubt to its limits the limits will not be found in our own psychical existence but in this real being to which both truth and falsity are relative. To ascertain

the character of this real being, so far as it is ascertainable, there seems to be no other method than that which is actually used by Husserl. What he is asking all through is what features in the nature of an object constitute it a possible object of knowledge. This is a peculiarly philosophic method and, if we give up the Cartesian representationism altogether, its value not merely remains unimpaired, but becomes increased. It is true that it is not so original as Husserl seems to suppose; in one form or another and with different degrees of consistency it has been followed by most philosophers from Plato downwards. But Husserl must be credited with a peculiarly thorough and fruitful application of it to modern problems.

A. K. STOUT.

Die Platonische Renaissance in England und die Schule von Cambridge.
By ERNST CASSIRER. Leipzig, B. G. Teubner, 1932. Pp. 143. Rm 7.

THIS is the book that some of us have long been hoping for. So far as I know it is the first attempt by a Continental writer of authority to give an adequate account of the important revival of Platonic study that took place in the seventeenth century in England, of its origin in the Italian Renaissance, of what it here achieved in the rescue of Christianity from Calvinistic dogma, and of how it repaid its debt to Continental thought by its subsequent reaction upon it. As an incidental object, the book aims at counteracting the idea fostered by Kuno Fischer and other German historians that English philosophy is a one track line, run in the interest of Empiricism, beginning with Bacon and ending with Mill and Spencer. The writer's thesis is developed with a sympathy, a wealth of learning and an effective literary style of which this short notice can give a very inadequate idea but for which English readers cannot be too grateful. If in it I mention one or two points in which the writer may seem to them to have done less than justice to his subject, I would remind them of the difference between their own approach and the German one to this study. To them, as I have elsewhere tried to show, the main interest lies in the anticipations of later important idealistic developments of philosophy in England and America, which a Continental writer, with his eye on a larger field, may perhaps be excused for overlooking.

The book is divided into six chapters of which the first sketches in a masterly way the lines of connection between the fifteenth century Florentine revival of Platonic study, in the so-called Academy, and English thought, through the Humanistic work of Colet, Sir Thomas More and Erasmus. But it is shown how in England the seed fell on different soil, and had a different issue, from that which it had in Italy. While there the movement resulted in a hard and sceptical attitude to traditional religion, the inborn friendliness of the English mind, if not to the dogmas, yet to the inner spirit, of Christianity carried it in the direction of a reinterpretation of the entire Christian system. It was significant of its subsequent course in this country that it was in the youthful lectures of Colet on the Pauline Epistles, delivered in Oxford in 1496, that we have the first word of the long conflict (not yet ended) between the humanistic and the dogmatic interpretation of the work of Jesus and St. Paul.

In the second chapter on "The Idea of Religion in the Cambridge School", this idea is shown to be directly derived from the Aristotelian and Plotinian Conception of the Soul as no mere solecism of Nature's but as "in

some sense the all of things" ($\delta\eta\psi\chi\eta\tau\alpha\pi\omega\epsilon\sigma\tau\omega$). From which follows the equally Plotinian Doctrine that the condition of its knowledge of the divine is that it should itself become divine ($\gamma\epsilon\nu\sigma\theta\omega\delta\eta\pi\rho\omega\tau\omega\theta\epsilon\omega\eta\pi\omega\kappa\iota\kappa\alpha\omega\pi\omega$, $\epsilon\iota\mu\epsilon\lambda\lambda\epsilon\theta\epsilon\omega\pi\omega\theta\epsilon\epsilon\omega\pi\omega\kappa\iota\kappa\alpha\omega\pi\omega$). If the doctrine of the "Candle of the Lord", represented in the soul of each by his Reason, was a form of Rationalism, it is pointed out that it differed from that of the following century as Pascal's Definition of Faith (*Dieu sensible au cœur non à la raison*) differed from that of the Deists.

Coming in the longest and most suggestive chapter to "The Place of the Cambridge School in the History of Culture", Dr. Cassirer develops the story of the conflict between its teaching and that of Empiricism on the one hand, Puritanism on the other—described by the author as the two fundamental forces that have operated on the modern English mind. These might seem to be far enough apart from each other, but the bond of union is found in the place which they both assign to the *activity* of the individual. The Empiricist sets up the ideal of a philosophy which shall be practically active; the Puritan sets up the ideal of an active faith: to him "Religious 'call' and worldly 'calling' pass into each other". "Both Empiricism and Puritanism reject pure contemplation and speculation." Taking the former the writer characterizes Bacon's attitude to Nature as that of a judge to a prisoner at the bar. Its evidence has to be wrested from it by cross-examination, if necessary by torture. The procedure is not observation but inquisition. To the contemplative thinker on the other hand there subsists a fundamental harmony between the human mind and its object in nature. To know nature is to know itself and *vice versa*. Applied to religious knowledge this means that for Bacon philosophy can never lead to the truths of revealed religion. Knowledge and faith belong to different dimensions. To the Platonist there is no such severance. "I oppose not rational to spiritual," wrote Whichcote to his censor Tuckney, "for spiritual is most rational." Dr. Cassirer finds it quite in harmony with this characterization to insist upon the place that the Platonists assigned to the proleptic and synthetic activity of the self in knowledge and gives all credit to the School for the emphasis laid upon it. It might seem all the more surprising that he appears to belittle its contribution to the history of European thought by this anticipation of Kantian Doctrine. The explanation, as already hinted, is to be found in the almost total neglect into which its chief philosophical representatives fell both in England and the Continent owing to the mediævalism of their method and style of composition as contrasted with that of Hobbes and Locke. To the Continental student, the epistemology and metaphysics of the School disappeared in the sandy desert of Cudworth's *Intellectual System*; to the English they survived, though only in a thin and somewhat muddy rivulet, till they were joined by the strengthening and purifying streams that came from a fresh study of the Platonic sources and from Kantian Criticism.

While giving somewhat stinted recognition to the school in its criticism of Empiricism, Dr. Cassirer is unstinted in his recognition of its achievements in its conflict with Calvinism. To this "The Cambridge School stands to-day in exactly the position in which Pelagius stood to St. Augustine, Erasmus to Luther. In the Low Countries it was Boyle and Hugo Grotius, in Germany it was Leibniz, in England it was the thinkers of the Cambridge School who consciously grasped this object (the deliverance of Protestantism from the narrowness of Pauline and Augustinian dogma) and who, in spite of all obstacles, held fast to it." It is in this sense that it can be said

that "The philosophy of Leibniz and that of the Cambridge School are two important stages in the road which leads from Luther to Kant, from the Reformation to the Idealist Conception of freedom, from the principle of Justification by Faith to that of the Autonomy of the Will and the Practical Reason" (pp. 58 and 59).

The temptation to develop this thesis is too strong for the author, and he proceeds in the following chapter to draw a telling contrast between the Augustinian conception of Grace in opposition to Nature and the Renaissance teaching on the Platonic Eros, as reflected in More's *Utopia* and Spenser's *Faerie Queen*. It seems a pity that a mistranslation of "Mercy" in Portia's great speech in the *Merchant of Venice* by the German "Gnade" should have led him into a long and quite irrelevant section on "Shakespeare's Idea of Grace"!

In the fifth chapter, on "The Philosophy of Nature in the Cambridge School", in view of the recent recognition of the inadequacy of physical and mathematical as contrasted with teleological concepts of Nature, there might seem more to be said for the achievements of Cudworth in this field than the author seems willing to admit. The reader of the carefully drawn comparison between the ideas of the School with those of Leibniz might even be excused for asking whether in the end it did not remain truer to the spirit of their common Master than did the great Monadist. But this doubt need not detract from the interest he will find in the exposition and criticism of Henry More's anti-Cartesian doctrine of space as having an absolute (in his belief, a spiritual) being, and thus paradoxically opening the way to the Newtonian conception of it.

The book concludes with a chapter on "The Issue and Subsequent Influence of the Cambridge School". Its thesis is that their ideas passed to the Continent "not over the mountain tops but through the valley"—in other words by way, not of the celestialities of More and Cudworth, but of the more worldly wisdom and wit of Shaftesbury: not by any ripple of influence on the general course of philosophy, but by the attraction the genial Earl's ideas on aesthetics possessed for Winckelmann and Herder, Goethe and Schiller. Passing over the omission already referred to of any mention of the subsequent influence of the School in England and America, the reader is not likely to have any serious quarrel with this modest estimate of its influence on the Continent and will find compensation in the delightful section on the Eros-Motive in Shaftesbury's doctrine on Enthusiasm and on The Freedom of Wit and Humour to which it lends occasion. If here again the author permits his own enthusiasm for Shakespeare to lead him out of his track, the English reader will perhaps be the last to complain. In conclusion, and in view of the comparative neglect by philosophers (in spite of the lead of Tulloch, Martineau, F. J. Powicke and others) of this brilliant episode in English thought, it is to be hoped that Dr. Cassirer's monograph will not be long in finding a translator.

J. H. MUIRHEAD.

Immanuel Kant in England, 1793-1838. By RENÉ WELLEK. London: Milford (for Princeton University Press), 1931. Pp. vii, 317. 24s.

It is remarkable that we have had to wait so long for an account of the introduction of Kant's thought into Britain. The author, to our discredit and his glory, is a Czech: he writes from Prague, and the book was printed

there. His competence is astonishing. To an intimate knowledge both of the text of Kant and of the various interpretations of its chief modern expositors he adds a familiarity with the obscurest byways of our literature and an easy unselfconscious grasp of our peculiar mentality that betoken both considerable erudition and considerable imaginative sympathy. His very English is like that of a native, and sometimes rises to distinction; only occasionally, in a mispelling or a harmless breach of our uncodifiable use of prepositions, does he reveal himself to be a foreigner. The constant "epistemological" reflects a weakness rather in his Greek than in his English.

The limiting dates in the title are respectively that of the first printed report in English of Kant's philosophy (an article in *The Monthly Review*) and that of the first complete English translation of the *Critique of Pure Reason*. The external aspect of the history between these two dates may be summarized briefly. The article in *The Monthly Review* was followed in 1795 with a fugitive plea by an Irish writer, O'Keefe, for the translation and study of Kant. The first unfolding of the Critical Philosophy in this country, however, has to be attributed to two emigrant Germans, working almost simultaneously though independently. Nitsch lectured in London from 1794 to 1796, and published in the latter year the first book in English on Kant. Dr. Willich, who had sat at the feet of Kant himself in the University of Königsberg, lectured about the same time in Edinburgh on German language, literature and thought, and in 1798 published the second English book on Kant. Willich seems to me—Dr. Wellek supplies the evidence but does not gather it together and draw this conclusion—to have been the more influential of the two, for, on the more esoteric or technical side, Kantianism clearly took root first in the northern capital. Niebuhr, the historian, writing from Edinburgh in 1799, says that Kant is well known there; the first translator of Kant was a Scotsman, a John Richardson, who studied in Halle (he published translated extracts from the first Critique in 1797, versions of the *Grundlegung zur Metaphysik der Sitten*, *Religion innerhalb der Grenzen der blossen Vernunft*, and of minor works, in 1799, and of the *Logik* and *Prolegomena* in 1819); and Dugald Stewart was able in 1810 to speak, with some regret, of "the noise which this doctrine has made". The new doctrine appears to have been ignored by our professional philosophers, except for unappreciative glances by Brown and Stewart: the one exception was Hamilton. The only man of general fame who opened his mind to Kant, and who is credited by Dr. Wellek with bringing Kant before the English reading public, was Coleridge, whose first mention of Kant was as early as 1796. Dr. Wellek speaks of him as "the intellectual centre of the English Romantic movement", and traces to him the very unequal acquaintance with Kant shown by Hazlitt and De Quincey. The latter, besides translating Wasianski's well-known memoir, wrote a brief exposition of the Critical Philosophy. It will be news to most of us that the diarist Henry Crabb Robinson wrote on Kant, and did so independently of, indeed earlier than, Coleridge. As has been pointed out, Dr. Wellek's story ends with the appearance of Haywood's complete but execrable translation of the first Critique. It is interesting to have an account of Schopenhauer's peevish effort to collaborate with, even to supplant, Haywood in that work.

With some diffidence I suggest that Dr. Wellek has over-emphasized the influence of Coleridge. Surely it was Carlyle rather than Coleridge who in the realm of letters brought German idealism (and with it Kant) effectively before the British public. This is almost admitted fugitively on

p. 183. Anyhow, he gained the ears of a vast multitude, while Coleridge, in his semi-philosophical writings and personal contacts, reached little more than a clique. However that may be, I regret that Dr. Wellek has not given more prominence to the question how Kant entered British *philosophy*. We are only told that he entered through Hamilton. I for one should be grateful to learn whether the great outburst of interest in Kant on the part of Green at Oxford, of Caird at Glasgow and Oxford, and later of Mahaffy and Bernard at Dublin, was evoked by Hamilton or by his disciple Mansell, by Hegel through Stirling, by the direct influence of German writers, or, as Professor Muirhead seems to intend in his "Platonic Tradition in Anglo-Saxon Philosophy", through the literary influence of Coleridge. An investigation of this interesting historical question has not yet been made. Perhaps it is unfair to make this demand on Dr. Wellek, since he has made 1838 the terminal date of his book; but the extension of his survey, if only summarily in an appendix, to the time of the real discovery of Kant by British philosophers, would have enabled him to end his book with a climax instead of with a date of merely bibliographical interest.

On its inner side, Dr. Wellek's survey is a tale of grave misunderstandings. The chief value of the book lies in the very full accounts it gives of the early enthusiasts and expositors, accounts that have involved the exhumation of articles, letters and volumes that most of us, I imagine, have never met or even heard of before. A few of the general misunderstandings may be singled out. First and foremost, no one seems to have grasped the central problem of the first Critique, the problem dealt with in the Transcendental Deduction. De Quincey comes astonishingly close in his remark that Kant solved the puzzle "that a man is in possession, nay, in hourly exercise of ideas larger than he can show any title to", but this was a fitful flash in the dark. Only the gross result, the phenomenality of the world of objects, was generally grasped; but even here "phenomenal" was taken to mean "illusory" and the whole doctrine prevalently regarded as mere subjectivism, as nothing new, as Berkeleyanism over again except that Berkeley wrote with simplicity and grace. The complaint against Kant's uncouth nomenclature and style was acrimonious as well as general, though here again De Quincey had the perspicuity to see and the wit to say that "when Kant assigned names he created the ideas". The resolving of the technicalities into new-fangled ways of putting old points prevented them from being explored, and without exploration both the acceptance and the much more common rejection of Kant's thought were inevitably superficial. Those who accepted it did at least perceive that Kant was moved by a constructive purpose, that his system had positive metaphysical implications; but their perception was divination rather than comprehension, the mystical response of romanticists to that solemn penumbra of transcendent reality which was already being emphasized and depicted by Schelling. While Kant's detractors confused him with Berkeley, these enthusiasts confused him with Plato and surrounded him imaginatively with the same misty splendour. This poetic ardour was at times tainted with intellectual snobbery; they were inclined to regard their acquaintance with the latest mysteries of German metaphysics as a mark of superiority. Such acceptance of Kant as there was, then, occurred chiefly in the literary sphere. The resistance came from the unpoetic and from the professional philosophers, most of whom—for at that time both classes were religiously orthodox—saw Kant as in general a sceptic and in particular a destroyer of the traditional proofs of the existence of God.

Besides, the ordinary Englishman found him impossibly "metaphysical", the philosophers could not fit him into the simple empirical tradition of Locke, and all alike, or almost all, were ignorant of the language of Kant's country and of the spiritual ferment there that was producing other works, literary as well as strictly philosophical, in which avenues to the thought of Kant could have been found.

In view of the large space given to Coleridge it is a happy coincidence that the book appears so recently after Prof. Muirhead's *Coleridge*. The two books deserve to be closely compared. Dr. Wellek asserts against Prof. Muirhead that the main lines of Coleridge's philosophy were determined by Kant. He adds to the usefulness of his discussion by reprinting, with some corrections, the few previously published marginalia of Coleridge to Kant and by contributing in an appendix further marginalia (to the *Ver-mischte Schriften*) hitherto unpublished.

Dr. Wellek has achieved the distinction of writing the only treatise on the subject he has chosen. Not for this reason only but also because of the richness of the material he has discovered and the fine competence with which he has presented it, his book will have to be given a place in every philosophical library.

T. E. JESSOP.

A History of Indian Philosophy. By S. DASGUPTA, M.A., Ph.D. Vol. 2. Cambridge : at the University Press, 1932. Pp. xii + 620. 35s.

TEN years ago Dr. Dasgupta gave us a work which portrayed the history of Indian thought from its beginnings in the religious hymns and their pantheistic developments, the Upanishads. He showed how from these inspired sources the various orthodox systems diverged, and how even the atheistic and materialistic reactions still had to state their positions against the problem of the one and the many. The pantheistic presupposition remained fundamental amid all the attempts of the rationalists to talk sense, and of the religionists to retain a god that could be worshipped. The author's method has been the sensible one of giving in his first volume the historical growth and connexion of the main lines of thought down to modern times. This forms a whole, and in his remaining volumes (he promises five) he is at liberty to deal with special developments according to their importance.

The present volume consists of four long chapters, three of which deal with different forms of pantheism. The earliest of them, though coming last in the volume, is on the philosophy of the *Bhagavad-gītā*. This poem does not expressly claim to teach a philosophy. It starts off with a moral problem, and, as Dr. Dasgupta says, its fundamental idea is that a man should always follow his caste duties, and that he should dedicate all his actions to God. But the author of the poem is devoutly convinced that this God is Krishna, a person who appeared in India as a human being at a definite period of history. He appears like that at different times, when the world gets into a bad state. This God, who is the creator of all, and who is also everything that exists, is not only the real agent in everything, but is the material cause and the end as well. The poet is more eager to tell us of the might and glory of Krishna than to answer all the questions that arise. "The main purport of the *gītā*," says Dr. Dasgupta, "seems to be that ultimately there is no responsibility for good or evil." That is what we may infer, but surely the author of the

poem did not intend to teach this antinomian doctrine. This is one of the problems to which he fails to give an answer that accords with his high moral teaching; and such inconsistencies have led scholars to theories of composite authorship, as if a religious enthusiast never contradicted himself.

Dr. Dasgupta goes through the philosophical theories involved in the poem, and shows that they do not correspond with any of the classical systems. The natural inference is that it is older than any of them. This is all that is required to show its place in Indian thought. Actual chronological conclusions are extremely tenuous, but Dr. Dasgupta would have strengthened his position if he had been more explicit with regard to rival theories. To tell us what Dr. Lorinser "holds", a Catholic theologian who died forty years ago, is too speculative as well as futile; and to call Garbe arbitrary and dogmatic ignores the fact that he had a reasoned theory. We may reject it, but hardly by means of such epithets. On the other hand the latest theories, notably Dr. Belvalkar's elaborate discussion, are ignored; and Dr. Dasgupta makes his own views appear weaker than they might by pleading that "they are not more heretical than the views of many distinguished writers on Indian chronology". In that case his rivals' views are as good as his own.

The author of the *Gītā* had no doubt that the world exists. It is Krishna. Hence he is the abode of all beings. As God he is in all beings, yet as he is the creator all beings are in him. The contradiction is boldly admitted. It is due to Krishna's yoga and magic power. What does that matter to his devotees, who come to him and attain eternal peace? But later thinkers were not satisfied in piously ignoring the contradictions. The Buddhists developed logic, and found contradictions in everything. It was impossible to assent to the truth of any particular proposition. This Buddhist school was for long called Nihilism by Western scholars, and treated as a scarcely credible aberration of thought. But the Russian scholar Stecherbatsky has shown that there is much more in it than this. All particular assertions are untrue, because nothing is true apart from the whole. Hence the doctrine that *nirvāna*, the ultimate reality, is identical with *samsāra*, the world of change, becomes intelligible. The theory is one of logical relativity.

It was this school, as the author shows in his first chapter, which so much influenced Sankara and his contemporaries. This was recognised from the first, for Sankara's rivals accused him of being a crypto-Buddhist. Sankara, however, clung to *brahman*, the one reality behind everything, and developed the doctrine of illusion, *māyā*, into a cosmical principle. Having opposed reality to illusion he was no longer at liberty to treat them both as essential factors of experience. The illusion had to be explained away, and it was done by adopting the Buddhist theory of two truths. This is not the Muslim doctrine of philosophical and theological truth, invented to escape religious persecution. It is the distinction of limited and absolute truth, which the doctrine of illusion made inevitable. With the help of this Sankara was able to make a clear distinction between the world of dreams and the world of waking experience, but it is a distinction within the limited truth. In absolute truth there is only *brahman*. Sankara himself is important rather for having set problems to his successors. We find them refuting Paley by denying that because a pot implies a potter, a tree implies an intelligent creator, and they rejected the individual soul, "the so-called unity of consciousness," with the gusto of the older Buddhists. It is thus easy to understand the hostility of

modern devout Hindus to Sankara's Vedanta. The chapter is very rich in epistemological and ontological discussions, and it is among the most important, not merely in the book, but among anything that has been written to show the interaction and logical progress of Indian thought.

Another Buddhist school also influenced Hindu thought. This was the Vijnanavada, the doctrine that only consciousness exists. It must not be supposed that consciousness means consciousness. It is something fundamental, found to be implied in and underlying ordinary consciousness. The Hindu work which shows the continuation of this doctrine is the *Yoga-vāśishtha*, a work of the age of Sankara (ninth century A.D., though Dr. Dasgupta puts it a century or two earlier). This is the subject of the second chapter. The world does not exist, but yet there is something to be accounted for. This is said to be "deep and static, neither light nor darkness, indescribable and unmanifested, but a somehow existent reality". It is not surprising that Dr. Dasgupta finds a difficulty in saying anything about it. He cannot even say it is cessation. It is "of the nature of" pure cessation. From this comes, not a thought, but "something like" a self-reflecting thought in the ultimate entity, producing an "indescribable objectivity". Next, on a further movement, which is not thought, but "akin to thought," there is produced, not exactly a self-thinking entity, but "a state which can be described as a self-thinking entity". This develops still further, but yet it is "in no sense real, and is nothing but the seeming appearances of the self-conscious movement of the ultimate being". It will be readily understood that this system requires for its comprehension the mystic practices of yoga (as its name implies), by which the adept passes through several stages and reaches "a state of unconsciousness unthinkable and indescribable". Other Indian systems also require yoga for the realisation of their truths, and the present chapter, besides bringing forward another of the subjectivist theories, contributes to our knowledge of the specially Indian developments of psychology.

The remaining chapter on speculations in the medical schools has little apparent connexion with the others, but its presence is fully justified. Not only did the medical schools develop metaphysical theories of their own, but the other schools make use of anatomical and physiological conceptions which cannot be understood without reference to the medical theories implied. As a connected account of medical science the chapter suffers by ignoring the only other systematic work on the subject, Jolly's *Medizin*. It is quite likely that Dr. Dasgupta has something to add or to correct, but if he has never examined Jolly, he must not expect to be accepted where views differ. We want some justification or refutation. To ignore everything but what has been written in English is not the way to advance science.

It need not be thought that the author's projected volumes will deal with merely subordinate philosophies. Some of them are much involved in religious developments, but there are still the schools which, while accepting the principle of the unity of knowledge, do not declare their bankruptcy by explaining all plurality as illusion. They make, as the future volumes will doubtless show, a serious attempt to explain, not explain away, individual selves and things.

E. J. THOMAS.

Philosophies of Beauty from Socrates to Robert Bridges, being the Sources of Ästhetic Theory. Selected and edited by E. F. CARRITT. Oxford: Clarendon Press (London, H. Milford), 1931. Pp. xxi, 334. 15s.

χαλεπα τὰ καλά. This is the one statement we all make with certainty and conviction, whether we try to create beauty, or to give an account of beauty or an account of an account of beauty. Not least of all should we say this, if we tried to do what Mr. Carritt has done: to select for an anthology, from a vast literature, passages illuminating art and beauty, often having to translate, always having to determine which actually has been or deserves to be a 'source of æsthetic theory'—though of course only art and beauty themselves ought, strictly speaking, to be this. The best writings on Ästhetics have this in common that like their object, works of art and beauty, they must be appreciated as wholes, each part vastly modifying the other and indeed sounding often like a *contradictio in adjecto*, while generalisations, more nebulous almost here than in other philosophy, obtain definite meaning only from the details treated of and from the *obiter dicta*. Hence excerpting here is very difficult indeed and Mr. Carritt will meet with more even than the customary ingratitude which is the reward of anthologists. I too will make my grumble and pay my tribute of unthanks, if only because this is the thing done with anthologies, but also to illustrate the very real difficulties Mr. Carritt had to contend with. I confine myself to Plato whom Mr. Carritt considers the most important of all the contributors: From page xvi the unwary, certainly the careless, reader will conclude that for Plato, as for most of us moderns, the theory of art and the theory of beauty are one, and that it is Plato who *intentionally* "makes it pretty clear that beauty" (*i.e.*, art) "is not just truth or edification" and who *means* to "protest" against the "moralistic heresy" about the function of art. Mr. Carritt is too good a Platonic scholar to intend this for Platonic exegesis. The fact is that, writing and selecting, not as a historian concerned with the correctness of historical perspective, but as a philosopher who in his thinking has found certain passages suggestive (hence it is that in his summaries he constantly makes use of the distinction between 'formal' and 'characteristic' which to Plato as to most of the ancients, I venture to say, meant very little), he states, somewhat elliptically, that to us, who see that art and beauty are one, the chief lesson which Plato unwittingly and unwillingly, but none the less forcibly, conveys is that of the autonomy of æsthetic, and therefore of artistic, values. But, if that is all, why attach such great importance to Plato? The short passage from Philostratus contains far more positive and modern significance than all these pages from Plato together. Surely for us the significance of Plato is this: He, a Greek living amidst the finest Greek art, a lover of beauty and an artist quite as much as a philosopher and mystic, categorically denounces all our favourite modern æsthetic beliefs as blind and stupid heresies. Beauty (the theory of which is given in the *Symposium* which contains one permissive sentence about art (209a), and in the *Phaedrus* which treats art with contempt (248 d and e) and in 278 c and e by implication denies that beauty, any more than truth, can reside in expression) is not the same as art; it is very doubtful whether he holds that it "imitates states of mind" or is "a relation to our minds" or to anything; it is given in the erotic and not in the artistic experience; when sensuous it is found primarily in human bodies; chiefly it is non-sensuous, residing in laws and practices (*ἐπιτηδεύματα*). It is not the same as, though never in conflict with,

other values (*Phædrus*, especially 250). It is an ultimate value, to use distorting modern terminology. There is nothing either ultimate or autonomous, on the other hand, about art (the theory of which is given in the *Republic*). Art is connected with beauty only in so far as it imitates beauty. It is only of propaedeutic value and is to be judged only by an ethical standard. Judged epistemologically and metaphysically it is worthless. In other words, the deepest message that Plato has for us is that the modern tendency to attribute some ultimate vision and experience *par excellence* to the artist simply because beauty is ultimate, is (*de me quoque fabula*), according to Plato, nonsensical. Beauty, he tells us, is not to be identified with expression or with art, since essentially it is supra-sensual and beyond expression. And it is this conception of a supra-sensual or ideal beauty, definitely outlawed by Crocean Aesthetics, that has been the characteristically Platonic lesson and inspiration to poets themselves: to the sixteenth-century poets in France, to the English 'Metaphysical' poets, to Shelley and many of the Romantics. However, —and this shows the skill and care of Mr. Carritt's selecting as well as its inevitable limitations—nearly all the relevant passages that could be conveniently excerpted which the reader needs to form his own opinion are given him, with, however, one (to my mind) vital exception: The questionably Platonic *Hippias Major* which takes up too much room that could more profitably have been given to more from the *Symposium* and the *Phædrus* or to a special illustration of the different senses of 'imitation' in the *Republic*, should, at least, since such usurping prominence is given to it, have included the few lines in 298 *b* and *d* which make it plain that the beauty in "laws and practices" makes a definition of beauty as non-sensual an important consideration. Also, translating $\delta\mu\mu\sigma\gamma\mu\epsilon\nu$ by 'artist' and 'work of art' on page 18 and elsewhere, though doubtless it illuminates the immediate context, is misleading for Plato as a whole, who had not our concept of the 'fine' arts.

Amongst the moderns, one might complain of the omission of Lessing, Volkelt (who has elaborated more finely than Lipp's the *Einfühlung* theory), Husserl or some of his followers, De Maupassant and Flaubert at least amongst the French (that nation, whose writers and artists are continually discussing Aesthetics, is represented only by Bergson). But Mr. Carritt was limited as to space. Within the compass allotted to him he is remarkably comprehensive and catholic. He gives us the less familiar Italians, and amongst English contemporaries he has even gone to journals and publications of learned societies, where he thought himself justified. I will signalise one omission only, that of his own *Theory of Beauty*. It is no doubt $\tau\omega\kappa\alpha\lambda\omega\epsilon\kappa\alpha$ that he passes over his own work. Another than he, in such a book about $\tau\omega\kappa\alpha\lambda\omega\epsilon\kappa\alpha$, would 'for the sake of the beautiful' have been bound to include it, whether for 'literary merit, historical interest, or philosophical importance' which are the qualifications for admission.

The introduction, of which one may admire the synoptic vision without accepting its view-points, the index, and above all the cross-references, which I am certain will illuminate to many of the living contributors their own meaning, are beyond praise. They, together with the thoughtful discrimination shown in the selecting, make the book not merely a compilation but a work of fine philosophic scholarship—scholarship and philosophy none the less admirable because with characteristic Oxonian *eiρωνεία* it effaces itself in odd corners or pretends to be less than it really is. After all ritual grumbling, Mr. Carritt deserves the sincerest thanks of all

students of Aesthetics for a work which must have been laborious but which will surely bear fruit.

P. LEON.

Whitehead's Philosophy of Organism. By DOROTHY M. EMMET. Macmillan & Co. Ltd. London, 1932. Pp. xiv + 289. 8s. 6d.

MISS EMMET has written an extremely competent introduction to Prof. Whitehead's Speculative Philosophy as set forth in his *Process and Reality*. Few would doubt that just such an introduction to his philosophical views was much to be desired. Prof. Whitehead has not the gift of lucidity; he has instead the dangerous gift of fine writing and of being able to express himself occasionally in neat aphorisms more apt for quotation than for understanding. As Miss Emmet herself insists: "A proper grasp of the context of a philosophical idea in the system of a philosopher is essential to the understanding of its significance"; she adds, "This seems an elementary truism, but it is surprising to see how often it is neglected, especially by those who like to quote, perhaps, the religious opinions of a philosopher, and interpret or criticise them in the terms and associations of another system of ideas" (p. 2). Students of Whitehead's philosophy are much indebted to Miss Emmet for her careful exposition of the context of his ideas. In her preface she explicitly disclaims any technical knowledge of Whitehead's work in mathematical logic, and suggests that there are sides of his "later work whose defence can fall to some of us whose interests in philosophy are necessarily humanist rather than mathematical" (p. ix). This is undoubtedly the case. In the opinion of the present reviewer, Miss Emmet has just the qualifications needed for the task she has set herself. She seems to have entered intimately into Whitehead's philosophical position, and at the same time she seems to be aware of just those points that are puzzling to those who have not this happy entry. Consequently, she has written a book that is something more than an exposition. The reader will find it necessary to have a copy of *Process and Reality* at hand, since Miss Emmet's references are by no means always self-explanatory.

It would be futile to attempt a summary of a small book dealing with a very large one, nor does Whitehead's philosophy lend itself to summary statement. It will be sufficient to indicate some of the services that Miss Emmet has rendered to would-be students of it. The first duty of the interpreter of an obscurely expressed philosophy is translation. This duty Miss Emmett has well performed. A single instance will suffice. Whitehead wrote, in the vague, grandiose language natural to him, that the "doctrine of necessity in universality means that there is an essence in the universe which forbids relationships beyond itself as a violation of its rationality. Speculative philosophy seeks that essence." And again, "in all philosophic theory there is an ultimate which is actual in virtue of its accidents". This is elucidated by Miss Emmett as follows: "Metaphysics must not be misled by the example of mathematics. Its primary method is not deduction, but *descriptive generalisation*. By descriptive generalisation is meant arriving at the general ideas which are implicit in our interpretations of experience; making them explicit, and bringing them out into the open, putting them together, and seeing whether they appear consistent and reasonable; in other words, the discovery of the ultimate assumptions implied in all our acting and thinking. If we

push this process back as far as it will go, we come finally to certain assumptions for which no further reason outside themselves can be given. If these were really ultimate and necessary, their precise formulation in a scheme in which their mutual implication would be apparent (we here recall the ideal of coherence) would be the goal of our metaphysical enquiry" (pp. 25-26). These ultimate assumptions, or first principles, are called by Whitehead "the ultimate irrationality". The search for these first principles, or general ideas, wherewith to interpret experience, is the business of metaphysics; it is the function of reason to discover these principles. Accordingly, Miss Emmet insists upon Whitehead's "defence of rationalism", and devotes one chapter to this defence (Chapter II.), and another (Chapter III.) to explaining what is meant by "the sentiment of Rationality". This is one of the weakest chapters in the book. The present reviewer, at all events, has been quite unable to discover what either Miss Emmet or Prof. Whitehead mean by "rationalism". Nevertheless, Miss Emmet declares that "we should turn with gratitude to Whitehead, if for nothing else, for his showing us that it is possible to be at the same time both a rationalist and a romantic".

After this discussion of method, Miss Emmet gives a useful account of "Some Primary Notions of the Philosophy of Organism" (Chapter IV.); she discusses the question whether the eternal objects are Platonic Ideas (Chapter V.); she endeavours to explain Whitehead's conceptions of "feelings" (Chapter VI.), and of "Creativity and Order" (Chapter VII.). On all these topics she has much to say that will enable the student to return to Whitehead's own book with a greater measure of understanding. It cannot, however, be said that she succeeds in removing the most serious difficulties that many of us find in Whitehead's views. For example, Miss Emmet insists that Creativity is "the bare general notion of the possibility of there being anything at all" (p. 72); it is "the notion of pure activity underlying the nature of things"; "it is the urge towards differentiation and unification, *i.e.*, towards the individuation of itself into many actualities, which are called its 'creatures', and towards the growing together of these creatures into new activities" (p. 73). She then simply asserts that by means of this notion the Philosophy of Organism attempts to do justice both to pluralism and monism. But in stating exactly *how* this attempt is made she seems forced to fall back upon Whitehead's own obscure statements, so that we are in no way enlightened.

It is to be regretted that Miss Emmet does not attempt to deal with Whitehead's final "Antitheses"—which to some of us seem rather to be sheer contradictions. Nor, in the opinion of the present reviewer, does she succeed in freeing Whitehead from the difficulty of monistic logic, namely, "of not being able to say anything about anything without saying everything about everything" (p. 129). But it is clear that she has at least recognised that there are difficulties of this kind for Whitehead to face.

It is rather remarkable that Miss Emmet has but little to say about the doctrine of objective immortality, upon which Whitehead himself laid so much stress. This doctrine is surely essential to his cosmology, and it involves the most serious difficulties, to which both Whitehead and his expositor seem blind. In spite of these omissions, Miss Emmet's book is a thoroughly reliable introduction to Whitehead's cosmological essay; it is written with obvious sympathy and considerable learning. It may be very strongly recommended to all who are interested in the latest developments of Whitehead's philosophical views.

L. SUSAN STEBBING.

A Philosophy of Reality. By E. L. YOUNG. Manchester University Press. 1930. Pp. xii, 266. 8s. 6d.

MISS YOUNG's book has several unusual qualities. In the first place, it is almost entirely innocent of references and quotations, except of the most general type or, in the case of quotations, tags from certain poets. Throughout her somewhat prolonged argument—about 450 words go to the page—Miss Young has attempted what I have somewhere seen described as “a direct think”; and her persistent refusal to name what she has read is the more commendable in view of the fact that, in most of her chapters, she has obviously read widely in recent as well as in older literature. In the second place, she has mastered a very difficult style of presentation, namely the art (which a few eminent physicists possess to perfection) of using slightly metaphorical language (say about atoms at drill) in a way that appears to stimulate and clarify with a very small risk of misleading. Furthermore Miss Young has embellished her pages and advanced her argument with a sprinkling of Homeric similes, fully drawn out and largely derived from her own experience.

“The business of philosophy”, she says, “is to explain the universe”; and she does not hesitate to affirm that she has gone into the business. Also, she thinks, the universe has to be explained to the man in the street as well as to the man in the lecture room (whether he is at the blackboard or among the listeners). And further “confidence is the most essential ingredient of knowledge”. Miss Young therefore professes a great deal of confidence, passing from “a core of instinctive certainty” to “reasonable certainty”; but since her thesis is that the cumulative evidence of her book as a whole is such that she *thinks* “we may reasonably advance from mere hypothesis to a sense of the probability of its truth, and from this, further, to as firm a sense of certainty as any philosophy should expect” (p. 33), it is not entirely clear what the cash value of her draft upon “the most essential ingredient of knowledge” precisely is. (No doubt her hypothesis is a very big one; but no *hypothesis* should break the bank.)

The argument of the book begins with “the greenness of the grass”, and (unsympathetically stated) is to the effect that Miss Young is confident that grass must be green because she is green; or, more at length, that the grass senses its greenness (a vibratory sensation), and that the optic nerve conveys this vibration “unchanged and without spilling any” to the “miniature theatre” of the brain where the same green vibratory sensation occurs.

In other words Miss Young presents a variety of the panpsychic and mind-stuff theories which may not seem either so novel or so satisfying to some of her readers as, plainly, it seems to her; and I fear I remain unsympathetic to the governing assumptions of the argument, namely that both “knowledge” and “causality” imply kinship and *are* kinship of a special kind. I am not so wise as necessarily to know my own relations, and I see no reason why such knowledge as I have should be confined to them. On the other hand Miss Young could certainly claim high authority for some such assumption (perhaps even Prof. Stout's “community” for the causal part of her argument); and so I hope she will have many more sympathetic readers than I am for the most important part of her book, *viz.*, for her chapters on “the greenness of the grass”, “the market of matter”, the “human unit” and “the five senses”.

Her chapters on "space and number" and on "time" seem to me of lesser merit. Indeed I am unable to discover from her why if "the simpler abstractions" are so very necessary (p. 186) abstract philosophy should be so very like neurasthenia and harassed, *horribile dictu*, by doubts. Again, on the same page, there is a specimen of "simple" abstraction which suggests that impatience may be as dangerous as neurasthenia; for Miss Young states (if I may put the point technically) that the existence of *vacua disseminata* is self-evident.

Miss Young's concluding chapters deal with "good and evil" and with "progress". In the former, she attempts to combine hedonism, enhancement of "power", increased unity-in-complexity and self-sacrifice for super-individual ends, without adequate discussion of the difficulties in the way of such ambitious syntheses. In the latter, she argues vigorously and quite effectively against various arguments designed to prove the impossibility of progress, but (unless she simply means that some advances have occurred) offers, so far as I can see, no positive evidence at all for her confident conclusion that "our philosophy has revealed to us the reality of progress".

JOHN LAIRD.

Bishop Berkeley : His Life, Writings and Philosophy. By J. M. HONE and M. M. ROSSI, with an introduction by W. B. YEATS. Faber & Faber, London, 1931. Pp. xxx + 286. 15s.

THIS book has to be judged from a standard of its own. It is in no sense a detailed study of Berkeley's philosophy. The *New Theory of Vision* is discussed in two pages; the polemic against abstract ideas in as many paragraphs. No close exegesis of the text is attempted, and any reader who expects a thorough discussion of the difficulties in Berkeley's philosophy will be disappointed. The philosophical parts suffer also from the fact that they were obviously first thought in Italian and then translated—not always too neatly—into English.

The book must be judged, however, from the point of view of its central theme. The authors have attempted to present us with a picture of the most fascinating figure amongst modern European thinkers. They have seen him as an enthusiast. First, he proposes to redeem mankind from its intellectual doubts and fears by a new theory of the universe. Then when this fails he sets out to build a 'brave new world' in the West, forgets his philosophy entirely, and is only driven back to it when this utopian scheme in turn has failed, and he finds himself compelled to defend religion against 'free-thinking'. Finally, when his efforts to save either the soul or the mind of his fellow-man have proved unsuccessful, he sets out to save at least his body. He presents the world with a panacea for all human ills, and sets it forth in a book, *Siris*, full of the magic and mysteries of the neo-Platonic Renaissance thinkers. There is no continuity in Berkeley's thought; there is no one Berkeleian scheme of things. His metaphysic and his epistemology change with every new period. Berkeley is not a great philosopher. His greatness, viewed properly, lies in his largeness of heart rather than in any power of systematising which he possessed.

Such is the picture which the authors desire to present to us. It will be seen that it is unorthodox—for the orthodox view, I suppose, is that Berkeley's thought is a growth and that the growth can be traced from the *Commonplace Book* to the *Siris*. Some have even gone to the extreme

of supposing that there is nothing in *Siris* and in the later developments of Berkeley's thought, which is not already contained in the earliest of his works, though the language in which his views are stated differs from time to time. But this book refuses to admit any such continuity. On the whole, I cannot but feel that the authors stress the differences between the thought in various periods of Berkeley's life to too great an extent. To examine their belief adequately it would be necessary to go into certain problems in the greatest detail, for instance, the 'subjectivism' of the earlier works, the relation between passivity and activity in the human mind, the real meaning of the polemic against abstract ideas, the relation between abstract ideas, 'notions', and Platonic Ideas, and such like problems. It was Berkeley himself who talked of "the early time of life" as "active perhaps to perceive but not so fit to weigh and revise". May it not be true that the later periods of his life consist in weighing and revising what he saw in his youth?

The details of the life are set forward in an excellent manner, which is at once both scholarly and pleasant. There are still some puzzles left in the life of Berkeley, but the authors have done their utmost to solve all of them. Since this work was published a few further facts have come to light, but the account on the whole is exceedingly thorough. I noticed a few errors. An error has crept in somewhere in giving the dates of Berkeley's brothers. Thomas, born in 1703, is said to be 'the second brother' (p. 8), George being the eldest. Yet Robert is said (p. 4) to have died in 1787, aged 88. So he would have been four years older than Thomas. I do not think the author of the *Commonplace Book* should be described as 'a philosopher of twenty' (p. 23), nor can I agree that the P. referred to at the end of that book is Percival (p. 55). Again, after proving (p. 77, n. 1), conclusively in my opinion, that Berkeley first visited London in 1713 and that there was no prior visit in 1712, the authors talk ten pages later of "the first stay of Berkeley in London in 1712". Is 1721 on the top of p. 111 a misprint for 1720? There are other minor misprints which I should mention: p. 118, "An Essay for . . ." instead of 'towards'; p. 132, "Time's noblest offspring" not 'offering'; p. 167, the "Minute Philosopher" not 'Philosophers'. I also wish that someone would clear up this matter of the relations between Berkeley, Samuel Johnson and Jonathan Edwards. It is not at all clear here.

Mr. W. B. Yeats contributes an introduction to the book, but apart from the first paragraph, in which a very high compliment is paid to the great thinkers of the Seventeenth and Eighteenth Centuries, I understood very little of it. However there is music in his words, and I suspect that others might find meaning and inspiration in them as well.

R. I. AARON.

The Growth of F. H. Bradley's Logic. By RUDOLF KAGEY. New York, 1931. Pp. 131.

IT is instructive to compare this work (which is presumably a Ph.D. thesis) with Prof. C. A. Campbell's *Scepticism and Construction*, if only to observe how different the same philosophy can look to the eyes of different critics, even though they are both admirers. To Prof. Campbell the essence of Bradley was his scepticism, and its lesson was that ethics and religion could safely be based on the affirmation of an unknowable Absolute. To

Dr. Kagey, who confesses (p. 5) that his aim is "largely propagandist", the 'growth' of Bradley's logic takes the form of a gradual elimination of the Absolute which disappears "save as an anachronistic idol piously preserved under alien skies and amid strange surroundings" (p. 58), and "finally abdicates the dictatorship which it had exercised throughout the pages of *Appearance and Reality*" (p. 40), and of the abandonment of intellectualism and the transformation of Bradley's philosophy by "a fundamental change" (p. 11) into an immanent 'metaphysic of experience'. Consequently, he represents the *Essays in Truth and Reality*, and particularly the final portions of this work (which Prof. Campbell passes over in silence) as the culmination of Bradleian philosophy. He is not, however, very successful in filling in the details of this final philosophy, either from the text of Bradley or from his own resources, and though it is true enough that the *Essays* have generally been neglected, there were fairly adequate reasons for this neglect. They were not systematic, nor consistent, and their dates were spread over a number of years. Moreover, though (as I pointed out at the time, in MIND, No. 95) Bradley repeatedly came very near in them to the 'revoke' (which James had predicted for him if he went on thinking !) he never openly recanted, and often 'relapsed' (as Dr. Kagey has to admit, p. 37, n.) ; nor did he explicitly refer to the concessions of the *Essays* in the Notes to the second edition of the *Logic*, while he went on reprinting *Appearance and Reality* without indicating any change of view. In other words, he maintained to the end the familiar pose of the philosophic systematist that his system was complete and in need of no correction ; and thereby he largely succeeded in concealing its gross inconsistencies from most eyes. This policy was, of course, 'wily' (as Dr. Kagey admits in one passage, p. 35), not to say *guileful*, but it may be doubted, whether it could have been avoided. For from the outset Bradley's thought was distracted by a *felt* conflict between the absolute idealism he had originally adopted as the handiest weapon for castigating and denouncing British empiricism, and the scepticism to which his acute mind saw it must lead, when it was applied to human life. He had also very soon mitigated the rigour of his theoretic intellectualism by admitting what can only be called a form of pragmatism as a 'practical makeshift', and had got into the habit of shifting from one of these three standpoints to another, according to the demands of controversy. But it was on this account peculiarly embarrassing for him to be summoned to take his practical pragmatism seriously, and to turn it into a key to the solution also of 'theoretic' problems, especially as on the other side his friend Bosanquet was pressing him to become a more whole-hearted intellectualist. As usual, therefore, the real source of the logical inconsistencies of the system are to be found in the psychology of its author.

I cannot agree, therefore, that Dr. Kagey's interesting attempt has succeeded. It is true that Bradley was forced to recognize the occurrence of *selection* and *relevance* in logic. But he could not assign to them the place they rightfully occupy in our thinking, without scrapping, not only his Absolute, but his whole emphasis on the 'self-development' of 'the system', that is, his whole *monism*, and reducing logic to an affair of the mutual dealings of personal thinkers. Dr. Kagey hardly perceives these compelling reasons. Nor does he realize the controversial situation as it was when Bradley began his literary career. When he commends Bradley (p. 6), as "usually the most careful and benignant of critics", he must have become momentarily oblivious of Bradley's treatment of J. S. Mill, Spencer, Bain and Henry Sidgwick (whom he conflates with his cousin

Alfred), and have refrained systematically from reading the footnotes to Bradley's books. Still, his study is interesting, though it must be used with caution.

F. C. S. SCHILLER.

Histoire de la Philosophie. By ÉMILE BRÉHIER. II. *La philosophie moderne.* III. *Le XIX^e siècle.* Période des Systèmes (1800-1850). Paris, 1932. Alcan. 25 fr.

M. BRÉHIER is to be congratulated no less on the rapidity with which his History is advancing to its conclusion, and the unfailing grace of its literary style than on the skill, shown most particularly in the present instalment, with which the salient features of ambitious and intricate "systems" are expounded in a few luminous pages. It can have been no easy task to compress the story of fifty years of "romantic" fermentation and following reaction into less than 356 moderate-sized pages, and to have done the work in a way which makes its reading a pleasure, and with a completeness which omits hardly anything. Some parts of the programme have, no doubt, been executed with more gusto than others, and individual readers may be expected to have their own opinions about the relative prominence given to the different philosophers under review. But there will, I believe, be general agreement that right measure has been observed. To my own mind, if I must select, the very best parts of the book are those which deal with the four men whose influence has on the whole had most historical importance, Fichte, Hegel, Schopenhauer, Comte; and this is just as it should be. (The chapter on Hegel strikes me as particularly admirable.) If any one has been a little too lightly passed over, I should say that it is Herbart. I doubt whether the full measure of his influence, at least on his own countrymen, in many fields has been recognized, and I note that there is no mention, for example, of the fact that the great *Psychology* of Volkmann von Volkmar is a product of the Herbartian school. Perhaps Herbartianism has been less influential and arouses less interest in France?

Naturally enough a relatively large space is given to intellectual movements in France; we have a fairly full account not only of the *idéologues*, Maine de Biran, Cousin, Fourrier, Saint Simon, Proudhon, but of the traditionalist reaction of the early part of the century, and the minor luminaries of "eclectic spiritualism". Since many of the figures introduced are little more than names to a reader in this country, M. Bréhier's narrative, which is full enough for the purposes of all but very special students, should be particularly welcome to us.

For historical reasons, Great Britain is all but completely in the background in these pages. One chapter suffices for the 'Scottish philosophy' from Stewart to Hamilton, Bentham, James Mill, Ricardo, Malthus, and the "romantic reactionaries," Coleridge and Carlyle. (The only other thinker of English speech who comes into the story at all is Emerson.) It will be different, of course, in the next instalment, where account will have to be taken of J. S. Mill, Darwin, Spencer, and "Anglo-Hegelianism".

The typographical execution of the book is generally excellent. I have noted only one or two small lapses, though presumably a few more might be found by looking for them. In the last sentence of p. 725 *spirites* is presumably an error for *spiri[tis]les*, and on p. 734, by an error in a figure (1774 for 1794), Hegel is made to pass his boyhood and adolescence in Switzerland. It is a rare example of momentary oversight in the author

that in the account of Schopenhauer no mention is made of the important fact that the second volume of his chief work was only added twenty-five years after the publication of the first.

A. E. TAYLOR.

De la connaissance de soi. By LÉON BRUNSCHVICG. Paris : Alcan, 1931. Pp. xi, 197. 25 fr.

READERS of this author's *Le progrès de la conscience dans la philosophie occidentale* are aware of his devotion to the theme of *Nosce te ipsum*, and may not be very much surprised that he has returned to it in the present volume. Certainly M. Brunschvicg left room for a freer and less sedulously historical treatment of this subject. But perhaps the newer exposition is altogether too discursive.

The author, indeed, does not think so. In the middle of his book (p. 94) he says "I do not need to apologise for the sinuosity and the unexpected turns of these lectures. If, since Socrates, the problem of self-acquaintance is the central problem of philosophy, the reason is just that it is fitted to lead us, not as children would like, from solution to solution, but from question to question. The self is never revealed as substantive, as substance. . . . Instruction concerning it . . . must have the task of putting us on our guard against the temptation to reach conclusions prematurely." And so he goes on expecting his argument to be unexpected.

The design of the book as a whole (if "design" be the appropriate word) is to explore the nature of man in successive chapters—man the artisan, the worshipper, the sorcerer, the rhetorician, the citizen, the artist, the philosopher, the moral agent, l'être spirituel—in the hope that in the end a union may emerge of conscience with consciousness, technology with the better part of technicality, public ideals with transfigured private idols, psychology with "interpsychology", temporal life with "intemporalité positive", Rousseau and Bergson with Socrates and Descartes—and all four of them with M. Louis de Broglie. The author's interests, however, cover a much wider range than technical philosophy, psychology or history of religion, and his book is embellished as well as strengthened by graceful allusions to Proust, Emerson and a host of others, as well as to Pascal, Kant or Spinoza. I cannot think, however, that the high level of the discussion is uniformly maintained, for some of the author's illustrations seem to me rather commonplace, e.g., his reference to the debate whether the present century began in 1900 or in 1901. Again his history is not quite impeccable because (p. 147) he says that the Clarke-Leibniz correspondence was published in 1740, that is to say more than twenty years too late.

Believing (p. 191) in "the union, in the immediate intuition of the *cogito*, of reflection on the *moi* and the infinity and universality of l'élan spirituel", the author strives to transcend the odd "agnosticismes de l'âme" to be found both in Malebranche and in Kant. The general character of his philosophy may perhaps be indicated by the phrase the "totalisation rationnelle" of "totalités libres" (pp. 172-173) and by the statement (p. 172) that "the idealism of science supersedes the realism of perception when the thinking subject detaches itself from its self-centredness in order to conceive the universe as a system of intrinsic relations"—supposing, that is, that this "idealism of science" is matched and united with a corresponding idealism of art, of language and of moral aspiration.

JOHN LAIRD.

Contemporary Schools of Psychology. By R. S. WOODWORTH, Ph.D., Sc.D., Professor of Psychology at Columbia University. London: Methuen & Co., 1931. Pp. viii, 247. Price 7s. 6d.

THIS sketch of current movements in psychology was much needed. The German student has had several such handbooks for some time; the English student has not had one. The book has grown out of a series of lectures to university students, and is perfectly suited to their needs. It ought to be in the hands too of those medical men, teachers and social workers who use psychology with the same trust with which they use the older sciences. As the author remarks, though without elaborating the significance of the observation, there are no "schools" in physics and chemistry. The survey is singularly objective, but more remarkable is the ease and lucidity of its presentation. The extraordinary simplicity is never due to simplification; every characterisation or comment will bear exploration. Overt criticism is reduced to a minimum, but the critical attention of the reader is constantly evoked.

Four schools are described as fully as the author's self-imposed limits will allow—the Behaviourist, the Gestalt, the Psycho-analytic (including Adler and Jung) and the Hormic (McDougall). In each case the survey takes account of the very latest literature, some of it so recent that the book must have been rehandled in proof. The crude aggressiveness and extravagant claims of Watson never provoke Prof. Woodworth to retort; he says the best that can be said about the school, and envelops his criticisms in gentle though effective humour. The psycho-analysts are treated with the same equitable detachment. The account of Freud is the most interesting and instructive one that I have ever seen: his system is not summarised but analysed, with a sympathetic attempt to exhibit the nature (rather than the details) of the evidence for its several points. He is however, finally assessed as a seer, a brilliant inventor of hypotheses, not a scientist. The chapter on the Gestalt school includes, along with the inevitable statement of its researches in the sphere of perception, an extremely clear discussion of its theory of learning as compared with that of Thorndike. The exposition of McDougall's system is distinguished by its excellent statement of the ambiguity of the notion of instinct. A few pages are devoted to the "existential" school of Titchener, but most of the chapter in which these occur is taken up with an exposition of the extent and importance of the introspective method, a subject that naturally reappears in the account of behaviourism. The final chapter places the preceding ones in perspective by adverting to the general body of psychologists who, belonging to no school, quietly pursue their proper problems. It leaves the impression intended; though it is rather incomplete—only Spearman and Myers are noted among the British—and alone of the chapters shows signs of having been written hurriedly. Jaensch, round whom something very like a school is growing, is here curiously compressed into a sentence.

A short list of books is added, with a few questions for self-examination on most of them. The index is very full, making the book a very helpful guide to the current treatment of particular topics. Every student should be made to read it both for its own virtue and as a preliminary to reading Murphy's *Historical Introduction to Modern Psychology*. In the sphere of psychology he will rarely find such competence so unpretentiously laid at his feet.

T. E. JESSOP.

Die Konsequenzen und Inkonsequenzen des Determinismus. By HELMUT GROOS. München: E. Reinhardt, 1931. Pp. 156, 6 m. 50 p. M. 6.50.

A CRUSADER against half-developed theories, this author sets himself, during the greater part of the present book, to show that determinism is (a) opposed to the opinions of the natural man regarding ethical practice, (b) incompatible with responsibility *in the full sense*, (c) properly indistinguishable from fatalism; and he criticises in detail a number of authors, nearly all German, for overlooking or disguising these consequences. Thus regarding (b) the author maintains that it is a mere subterfuge to say that the common man holds, or that anyone should hold, that the statement "I could have done otherwise" ought to mean only "I could have done otherwise had I decided otherwise" if in fact I am necessarily determined to decide as I do decide. Regarding (c) he maintains that the common statement that "fatalism" implies the inefficacy of voluntary agency is only a whipping-boy for distracting the attention from the fundamental meaning of fatalism (even in Islam), *viz.*, that, in Bishop Bramhall's phrase, "determination to one" has been necessary from the beginning of time, with the plain consequence that any individual personality can have no genuine *aseitas*, since no such personality either made or begat itself.

I confess that after reading so many lucid pages to this effect I expected libertarianism to be adjudged an easy victor, and was prepared to object that libertarianism should also have been put through the mangle (very often *the same* mangle) and, to vary the metaphor, that a ninepin that doesn't happen to have been upset need not therefore be considered secure. To be sure, the author had carefully explained that determinism did not destroy ethics, did not imply the futility of moral values, did not imply any particular sort of necessitation (*e.g.*, mechanical); and therefore I should have been more on my guard. In any case the event totally overthrew these expectations. The author has little sympathy with any physical theory of indeterminism (such as Weyl's), condemns N. Hartmann's attempt to construe "freedom" on Kantian lines as impossible from the nature of the case, and conceives himself to have knocked Driesch out in less than a round. He believes in short, that libertarianism is only another name for meaningless chance, and that, while it is easy to eschew thought and embrace mere romanticism, it is not at all easy to *think* and also to reject determinism, *although* determinism, like any other experimental creed, does not stand to reason, and cannot be demonstrated, with necessity, by experience.

The moral then is that all sensible men should accept determinism, but should also have the candour to admit and to explain precisely what it implies. Altogether, a most refreshing book, and an excellent example (even to those who do not accept its every argument) of a "Versuch einer vergleichenden Phänomenologie".

JOHN LAIRD.

An Introduction to Social Philosophy. By W. McDougall, M.B., F.R.S. Twenty-second edition. London: Methuen, 1932. Pp. xxvi, 506. Price 10s. 6d.

MESSRS. METHUEN always mean by "edition" any re-issue whether revised or not. Of the above textbook four revisions have been made, and two enlargements by the addition of appendices. The new edition is new

in virtue of a further appendix, though this was not written for the book, being a reprint of the author's article in *Psychologies of 1930*. The book now consists of three prefaces, the main text unrevised since 1919, and seven supplementary chapters. This method of expansion by simple accretion is regrettable, all the more so as the book really merits being organised into a new whole.

The new chapter, in which the author announces that he wishes his system to be called Hormic Psychology, is a vindication of his constant emphasis on the teleological character of mental phenomena. Being largely polemical, it is hardly susceptible of brief review; moreover, its assertions are of the kind familiar to students of philosophy. Here and there hints of a general philosophical character are dropped—that the lower should be interpreted in terms of the higher; that mind is co-extensive with life; that evolution of the living from the non-living implies, if we are to hold to continuity, the presence of mind from the beginning; that the recent departure of physics from a thoroughgoing mechanism is favourable to the last supposition; and that "mind is the indeterminate and creative element in nature". But these hints are naturally left undeveloped. Prof. McDougall's main purpose is to insist on the open recognition of goal-seeking as an ultimate kind of event and as the defining characteristic of mind, as against the mechanistic and quasi-mechanistic psychologies which have more vogue in his American environment than in Britain.

T. E. JESSOP.

The Causes of Evolution. By J. B. S. HALDANE. Longmans, Green & Co. London, 1932. Pp. vii, 235. 7s. 6d. net.

THIS is hardly the place to praise or to discuss the scientific side of Prof. Haldane's work. To a layman, like the reviewer, it seems an up-to-date, lucid and impressive account of the present status of the evolution theory, by one who is substantially an orthodox Darwinian, with special reference to the latest discovery in genetics. But, knowing that Prof. Haldane is a philosopher as well as a biologist, one rather expected from his title that he would take a comprehensive view of his subject and try to throw some fresh (and much needed) light on the philosophic aspects of evolution. But such hopes his work hardly fulfils. He does not discuss the term evolution itself, but merely takes it for granted as the name for the actual course of biological history. This use has of course the convenience that it enables him to recognize that degeneration as well as progress has occurred, and indeed much more commonly (p. 152). But it evades the question whether evolution should be regarded as a unitary process, reduces the 'causes' of 'evolution' to mere antecedents, and rules out attempts at explanation. It also leaves unanswered the question—why then call biological history an evolution? And the philosophic hints he drops, including his 'monistic prejudice' (p. 155) seem on the whole to be irrelevant to the philosophic problems about evolution, such as—can progress be assured? and does the whole process mean anything? Still, some of his incidental remarks are worth quoting. The fact that "most lines of descent end in extinction" (p. 159) seems to him to exclude, not only an almighty, but even an intelligent, design. The existence of parasites leads him to remark "we have now to ask whether God made the tape-worm" (p. 159). He finds that "the beauty of evolution is far more striking than

its purpose" (p. 168), and that "inexhaustible queerness is the main characteristic of the universe" (p. 169), concluding (*à propos* of the tape-worm) that "we should have to give the Devil credit for a large share in evolution" (p. 160). If these are the sort of reflections which the history of life suggests to the scientist, it is perhaps just as well that he should hold that it is futile "to pass judgment of value on evolution until we know more about it" (p. 169).

F. C. S. SCHILLER.

Received also:—

N. Hartmann, *Ethics, Vol. III. : Moral Freedom*, trans. by Stanton Coit, London, G. Allen & Unwin, Ltd., 1932, pp. 288, 12s. 6d.
Recherches Philosophiques, I., 1931-32, edited by A. Koyré, H.-Ch. Puech, and A. Spaier, Paris, Boivin et Cie, 60 fr.
College of the Pacific Publications in Philosophy, I., 1932, edited by P. A. Schilpp, Stockton, Calif., 1932, pp. 157.
Causality (University of California Publications in Philosophy, Vol. 15), Berkeley, Calif., Univ. of Calif. Press, 1932, pp. 231, \$3.00.
C. W. Morris, *Six Theories of Mind*, Chicago, University of Chicago Press, 1932, pp. xi + 337, 20s.
G. H. Mead, *The Philosophy of the Present* (Paul Carus Lectures, Third Series), Chicago and London, Open Court Publishing Co., 1932, pp. xl + 199, \$3.00.
J. Wahl, *Vers le Concret : Études d'histoire de la philosophie contemporaine*, Paris, J. Vrin, 1932, pp. 269, 30 fr.
F. W. Felkin, *A Wordbook of Metaphysics*, Oxford University Press (London, H. Milford), 1932, pp. xiv + 51, 3s. 6d.
P. W. Bridgman, *Die Logik der heutigen Physik*, trans. by W. Krampf, Munich, M. Hueber, 1932, pp. xii + 170, M. 4.80.
A. H. Gardiner, *The Theory of Speech and Language*, Oxford, Clarendon Press, 1932, pp. x + 332, 10s. 6d.
J. C. McKerrow, *An Introduction to Pneumatology*, London, Longmans, Green & Co., 1932, pp. 179, 6s.
V. Norström, *Religion und Gedanke*, Lund, Borelius, 1932, pp. xl + 324.
J. G. Greiner, *Formale Gesetzes-Ethik und materiale Wert-Ethik*, Heidelberg, C. Winter, 1932, pp. viii + 180, M. 8.
H. Thielicke, *Das Verhältnis Zwischen dem Ethischen und dem Ästhetischen*, Leipzig, F. Meiner, 1932, pp. xv + 262, M. 12.
H. Sérouya, *Le problème philosophique de la Guerre et de la Paix*, Paris, M. Rivière, 1932, pp. 202, 30 fr.
J. Chevalier, *La Vie de l'Esprit*, Grenoble, B. Arthaud, 1932, pp. 97.
P. Servier, *Introduction à une Manière d'Être*, Paris, Boivin et Cie, 1932, pp. 144, 10 fr.
G. C. Field, *Prejudice and Impartiality*, London, Methuen & Co. Ltd., 1932, pp. vii + 116, 2s. 6d.
S. K. Das, *Towards a Systematic Study of the Vedanta*, Bhowanipur, S. K. Das, 1931, pp. 292.
D. Gurumurti, ed. by, *Saptapadārthī of Sivāditya*, Adyar, Madras, Theosophical Publishing House, 1932, pp. xvi + 174, R. 2.8.
E. Grassi, *Il Problema della Metafisica Platonica*, Bari, G. Laterza e Figli, 1932, pp. 227, L. 14.

A. Guzzo, *I Dialoghi del Bruno*, Turin, "L'Erma", 1932, pp. 206, L. 18.

R. Kroner, *Hegel zum 100 Todestage*, Tübingen, J. C. B. Mohr, 1932, pp. 26, M. 1.50.

E. Neff, *Carlyle*, London, G. Allen & Unwin, Ltd., 1932, pp. 282, 10s. 6d.

K. F. Leidecker, *Josiah Royce and Indian Thought*, New York, Kailas Press, 1931, pp. 32, \$0.50.

M. Dorer, *Historische Grundlagen der Psychoanalyse*, Leipzig, F. Meiner, 1932, pp. 184, M. 6.

A. C. Douglas, *The Physical Mechanism of the Human Mind*, Edinburgh, E. & S. Livingstone, 1932, pp. xiv + 251, 15s.

T. A. Ross, *An Introduction to Analytical Psychotherapy*, London, E. Arnold & Co., 1932, pp. vii + 203, 10s. 6d.

C. E. Seashore, ed. by, *Studies in the Psychology of Music, Vol. I. : The Vibrato* (University of Iowa Studies), Iowa City, The University, 1932, pp. 382, \$2.00.

I. Krechevsky, "Hypotheses" versus "Chance" in the Pre-solution Period in Sensory Discrimination-Learning and The Genesis of "Hypotheses" in Rats (University of California Publications in Psychology, Vol. 6, Nos. 3 and 4), Berkeley, Calif., Univ. of Calif. Press, 1932, pp. 27-62, \$0.40.

C. A. Mace, *The Psychology of Study*, London, Methuen & Co., Ltd., 1932, pp. vii + 96, 2s. 6d.

A. M. Ludovici, *The Secret of Laughter*, London, Constable & Co., Ltd., 1932, pp. 134, 5s.

C. M. Attlee, *Philosophy in Educational Theory*, Birmingham, Cornish Bros., Ltd., 1932, pp. 172, 5s.

M. Casotti, *Educazione Cattolica*, Brescia, "La Scuola", 1932, pp. 254, L. 6.

R. Nihard, *La Méthode des Tests*, Juvisy, Éditions du Cerf, pp. 240, 13 fr.

G. Marañon, *The Evolution of Sex and Intersexual Conditions*, trans. by W. B. Wells, London, G. Allen & Unwin, Ltd., 1932, pp. 344, 15s.

E. Raiga, *L'Envie : Son rôle social*, Paris, F. Alcan, 1932, pp. xv + 268, 15 fr.

H. Brocher, *Le Mythe du Héros et la Mentalité Primitive*, Paris, F. Alcan, 1932, pp. 126, 12 fr.

Society for Promoting the Study of Religions, Journal of Transactions, No. 5, June, 1932 : Greek and Roman Ideas of the Soul, London, Luzac & Co., pp. 64, 2s.

Forty-Seventh Annual Report of the Bureau of American Ethnology, 1929-30, Washington, U.S. Government Printing Office, 1932, pp. 1108.

J. P. Harrington, *Tobacco among the Karuk Indians of California* (Bureau of American Ethnology, Bulletin 94), Washington, Government Printing Office, 1932, pp. 284, \$0.80.

F. Densmore, *Menominee Music* (Bureau of American Ethnology, Bulletin 102), Washington, Government Printing Office, 1932, pp. 230, \$0.80.

H. S. Colton, *A Survey of Prehistoric Sites in the Region of Flagstaff, Arizona* (Bureau of American Ethnology, Bulletin 104), Washington, Government Printing Office, 1932, pp. 68, \$0.30.

L. Halphen, *L'Essor de l'Europe (xi^e-xiii^e Siècles)*, Paris, F. Alcan, 1932, pp. 609, 60 fr.

G. L. Dickinson, *The Contribution of Ancient Greece to Modern Life*, London, G. Allen & Unwin, Ltd., 1932, pp. 32, 1s.

J. C. Chatterji, *India's Outlook on Life*, New York, Kailas Press, 1931, pp. 75, \$2.00.

K. R. Luckmidas, compiled by, *Modern India Thinks*, Bombay, D. B. Taraporevala, Sons & Co., 1932, pp. xix + 298, 6s.

N. V. Thadani, *The Garden of the East*, Karachi, Bharat Publishing House, 1932, pp. 127, 5s.

The Maniac: A Realistic Study of Madness from the Maniac's Point of View, 2nd edition, London, Watts & Co., 1932, pp. xviii + 259, 7s. 6d.

D. Lindsay, *Devil's Tor*, London, G. P. Putnam's Sons, 1932, pp. 487 7s. 6d.

W. G. Benham, *How to Choose Vocations from the Hands*, New York, G. P. Putnam's Sons, 1932, pp. cviii + 336, 21s.

J. B. Hudson, *Heredity in the light of Esoteric Philosophy*, London, Rider & Co., pp. 144, 3s. 6d.

L. Levaux, *L'Orient et Nous*, Vol. I., Louvain, Editions de l'Aucam, 1932, pp. 382, 25 fr.

M. Lecat, *Contre la Guerre avec Einstein*, Louvain, 1931, pp. 82.

M. Lecat, *L'Objection de Conscience est-elle soutenable?* Brussels, Internationale des Résistants à la Guerre, 1932, pp. 44.

Monograph Series of New Orient Society of America, No. 3: *Modern Turkey*, Chicago, Open Court Publishing Co., 1932, pp. 281-360, \$0.50.

T. F. G. Dexter, *Cornwall: The Land of the Gods*, Truro, Jordan's Bookshop, 1932, pp. 63.

VIII.—PHILOSOPHICAL PERIODICALS.

JOURNAL OF PHILOSOPHY. xxix., 2. **A. Edel.** 'A Study of a Philosophy of the Determinate.' I. [A very obscure article which does not say what the problem is with which the philosophy of the determinate is concerned. The present instalment deals with the situation, and the common characters of all situations, and discusses three senses of infinite.] **A. M. Dunham.** 'Animism and Materialism in Whitehead's Organic Philosophy.' [Complains that "nowhere does Whitehead tell just what negative prehensions are, though often enough he tells what they have to do. In truth, they are unfeeling feelings, disjunctive conjunctions, external internalities. With them, the theory of prehensions is faulty; without them it is impossible."] xxix., 3. **A. Edel.** 'A Study of a Philosophy of the Determinate.' II. [Discusses potentiality, and concludes that "if our analysis of potentiality has been correct, there is no meaning to the phrase 'one infinite nature from whose potency all things flow'".] **V. C. Aldrich.** 'Taking the Causal Theory of Perception seriously.' [Claims that it "renders intelligible the fact of *direct perception*".] xxix., 4. **A. Edel.** 'A Study of a Philosophy of the Determinate.' III. [Concerns 'structural analysis' and claims that his method is justified as "the most trustworthy instrument of metaphysical speculation".] **R. Kagey.** 'Report of the thirty-first Annual Meeting of the Eastern Division of the American Philosophical Association.' xxix., 5. **D. C. Williams.** 'Report of the Eighth Annual Meeting of the Pacific Division of the American Philosophical Association' [full and bright]. **E. B. Ginsburg.** 'On the Logical Positivism of the Viennese Circle.' [Argument in this Circle proceeds from the "Logicist position of Russell and Wittgenstein", but the writer thinks that "mathematical logic is in itself not yet a panacea".] xxix., 6. **D. W. Gotshalk.** 'Uniformity and Induction.' ["Uniformity itself, whilst real enough and conditioning induction, does not guarantee certainty to it. Certainty is got by investigation, hard work."] **A. C. Armstrong.** 'Fichte's Conception of a League of Nations.' [He conceived it as a federal state, able to use force.] xxix., 7. **A. E. Murphy.** 'Mr. Lewis and the *A Priori*.' [Mind and the World-Order expounds a 'dialectical' theory of truth, which concedes to the mind a certain power to legislate for reality by the interpretative attitude it takes up towards it, which is the true *a priori*, because only addressed to itself. But Lewis also maintains that the mind is not free to legislate and interpret as it pleases: our interpretations must apply to the real, *i.e.*, work.] **V. F. Lenzen.** 'The Metaphysics of Space and Time.' [Discusses whether space, or space-time, is a substance of relational structure, what is meant by its metrical structure, whether relativity-theories confuse space and the frame of reference, and whether they require an operational theory of physical concepts.] xxix., 8. **T. T. Lafferty.** 'Some Metaphysical Implications of the Pragmatic Theory of Knowledge.' ["Facts are bits of biography. They get into the form of common experience only in so

far as the individual reports them. As a theory progresses in acceptance, we no longer isolate out parts as biographical bits as such. They become merged in the timeless monotony of textbooks that misleads elementary students of physics, as well as some learned philosophers, into thinking that truths have no histories. The scientist comes back to what he terms experimental data. From this he constructs the formula or universal law. The disorganized 'data' become organized 'objects'. Here he reaches the goal, perhaps, of ancient thought. But ancient thought was not willing to recognize the instrumental nature of the universal in relation to the individual experience."] xxix., 9. **R. Demos.** 'On Persuasion.' ["Data are not born but made . . . the heresy of rigid data is at the root of the conception of strict reasoning." Nevertheless "experience preserves a brute and arbitrary element. The pattern is no more rigid . . . than are the data; the pattern is modified by experience, as experience is modified by the pattern". All this is not psychology but epistemology "for the issue is not between psychological process on the one hand and logical norms on the other, but between norms of inference which are fantastic and those which have an application. . . . Not only science but all special disciplines, including conduct and religion, achieve certainty through limitation. . . . In philosophic thought, precision is ruled out from the start . . . philosophy is the criticism of criteria."] **J. R. Kantor.** 'Logic and Superstition.' [Discusses Lesser's article in xxviii., 22.] **W. T. Bush.** 'Superstition and Logic.' [Ditto.] **A. Ushenko.** 'The Final Solution of Zeno's Paradox of the Race.' [A bold claim, based on the Theory of Relativity.] xxix., 10. **D. S. Mackay.** 'The Displacement of the Sense-Datum.' [Fails to see that it has any bearing upon the question of the identity or non-identity of the datum with the real object. It is "a discrepancy among the suggested meanings of the datum as a sign, not a disjunction among the assigned properties of the object as signified."] **C. Kling.** 'On the Instrumental Analysis of Thought.' [Criticizes Dewey's analysis of reflective thought as being too conservative in trying to retain a meaning in the traditional antithesis of deduction and induction, instead of contenting himself with the pragmatic sequence 'problem—tentative trial—confirmation in action'.] **M. W. Hess.** 'Epistemology and Symbolism.' [Criticizes 'logical positivism' for analysing propositions into 'structural tautologies', and denies that "the adventure into mathematics" tells "anything about the proposition that could possibly be of revolutionary import to the epistemologist".] xxix. 11. **G. Santayana.** 'The Prestige of the Infinite.' [A review of M. Benda's *Essai d'un Discours cohérent sur les Rapports de Dieu et du Monde*, which traces the appalling consequences of taking seriously the identification of God with the Infinite. In the course of his comments, Santayana confesses that "formerly I had some difficulty in sharing the supreme respect for infinite Being which animates so many saints: it seemed to me the dazed, the empty, the deluded, side of spirituality". But now he thinks that nature "unintentionally unlocked for the mind the doors to truth and essence. . . . Our minds are therefore naturally dissatisfied with their lot and speculatively directed upon an outspread universe in which our persons count for almost nothing. These insights are calculated to give our brutal wills some pause. Intuition of the infinite and recourse to the infinite for religious inspiration follow of themselves." Thus dualism and other-worldliness reassert themselves, even in Santayana's materialism.] **A. C. Benjamin.** 'Report of the 23rd Annual Meeting of the Western Division of the American Philosophical

Association.' xxix. 12. **L. S. Stebbing.** 'Substances, Events and Facts.' ['The purpose of my paper is to maintain that substances or things are logical constructions out of facts about events.' Contains some incisive criticism of Russell and Broad.] **M. ten Hoor.** 'A Critical Analysis of the Concept of Introspection.' ['The supposed difference between ordinary perception and introspection is merely a difference which is reducible to differences in type of sensation content and type of localization content.' '... My supposed introspection of an emotion is methodologically no different from my analysis of the perception of a tree.']. xxix. 13. **A. O. Lovejoy.** 'Dualisms Good and Bad, I.' [Replies to criticisms of his *Revolt against Dualism* by Prof. A. E. Murphy, at great length.] **B. A. G. Fuller.** 'A Spinozistic Fancy.' [Recommends the mystical experience as a positive illustration of the doctrine of the infinity of divine attributes.] xxix. 14. **E. B. McGilvary.** 'Physics and Metaphysics.' [Points out the difference between the experimental physicist, for whom a physical concept must describe an operation, and a mathematical physicist, whose concepts all reduce to 'pointer readings', i.e., essentially, *numbers*. Hence 'not every expression occurring in mathematical physics is a symbol of anything that can be identified in a laboratory' and 'all "physical constants" are numbers.' Philosophers are apt to overlook this, and it starts them off on very wild metaphysics.] **A. O. Lovejoy.** 'Dualisms Good and Bad, II.' [Continues reply to Murphy, and finally retorts to the latter's allegation that he had found seventeen distinct dualisms in him, that if by a 'dualism' is meant any distinction which denies a too facile reduction of differences to identity, he hopes there are more than seventeen. But only two of them, the epistemological and the psycho-physical, matter, and these his critic has not disposed of.]

REVUE NÉO-SCOLASTIQUE DE PHILOSOPHIE. xxxiv^e Année. Deuxième série, No. 34. Mai, 1932. **J. Maritain.** *De la notion de philosophie chrétienne.* [Discusses, in connection with the recent views of Gilson, with whom the writer is in close agreement, Bréhier and others, the question whether there can be such a thing as a distinctively Christian philosophy. The writer's view is that we must distinguish between the *nature* of philosophy and its actual historical *état* (*état*). In its own *nature* philosophy is the knowledge of an object which is common to Christian and non-Christian, but the actual *état* of philosophy in the Christian era is profoundly affected by Christian ideas, not least so in the writings of the philosophers who are strongly anti-Christian, e.g., Feuerbach, Nietzsche.] **L. De Raeymaker.** *La structure métaphysique de l'être fini.* [Sound common sense starts from the undoubtedly reality of a plurality of finite things. Each such thing has its own 'perfections', and these 'perfections' are limited. This is the fundamental principle of the *composition* of the finite. The constituent components, existence and essence, are not *things* but elements in the constitution of a thing. Strictly speaking, what *is* is neither essence nor existence but the *compositum*. In the physical realm we have to deal with two further types of 'composition', that of form and matter, and that of substance and accidents. In both cases it is important to insist that what *exists* is not the components but the complex of them. The difficulties which have been felt about the Thomistic analysis of the finite all spring from the 'reification' of the constituents of the complex.] **E. de Strycker.** *Le Syllogisme chez Platon* (concl.). [Careful examination shows that the doctrine and terminology of the syllogism, as elaborated by Aristotle, are unknown to Plato.

Probably, however, Plato prepared the way for Aristotle's doctrine by his use of the doctrine of Whole and Part, and more particularly by the elaborate development of the method of *διαιρέσις* in his later thought. The actual doctrine of the syllogism is probably a construction of Aristotle after his rejection of his own early Platonism.] **M. de Corta.** *Glose sur un passage du 'de Anima'* (429 b. 10-22). [The author's interpretation of this difficult passage seems to me not very different from that implied in the Oxford translation of the *de Anima*.] **Bruno de S. Joseph.** *Où naquit Francisco de Vitoria O. P.?* [At Burgos, according to the article.] **P. Harmignie.** *Travaux récents de philosophie morale* Book reviews, etc.

KANT-STUDIEN. Band xxxvii., Heft 1-2, 1932. **A. Liebert.** *Goethes Platonismus.* [Goethe, considered dialectically as a manifestation of absolute spirit, is the sole exemplary philosopher, embodying in the realm of life that completely comprehensive unity that is theoretically expressed in the Platonic Idea.] **R. Otto.** *Pflicht und Neigung.* [A long systematic ethical essay, seeking a way between Kant and the Hedonists. Man being more than will, his perfection is wider than Kant made it; but the hedonists err in confusing interest with desire for pleasure. The sense of duty and interest are mutually irreducible, but the ideal lies in their complication, in happy conscientiousness.] **J. E. Heyde.** *Unterschiedenheit.* [Distinguishes three possibilities of difference—simple absence of identity, difference of being (as, e.g., between round and red, to be distinguished from the difference between round and square), and mutual externality. The tendency to pass unthinkingly from simple difference to the two other forms is the source of many problems. It leads us to assume that the difference between universals and particulars carries with it difference of being and of "place"; that values have an absolute being apart from that which is valuable; that objects of consciousness cannot be different from consciousness without being external to it; and that individuality cannot be safeguarded without supposing a cleavage of being between the individual and the State.] **W. Del-Negro.** *Das Strukturproblem in der Philosophie der Gegenwart.* [Masterly survey of the bearing of the principle of the priority of the structural whole on each of the branches of philosophical science.] **E. Zwirner.** *Beitrag zur Gliederung der Philosophie.* Reviews. Portrait of the late Harald Höffding.

IX.—NOTES.

HARTMANN PRIZES.

Two prizes of £50 each have been offered by a member of the British Institute of Philosophy for the best Essays on Nicolai Hartmann's *Ethics* (English translation published by George Allen & Unwin Ltd., London; and Macmillan Co., New York) under the following conditions:—

1. One prize to be open to men and women citizens of the British Empire, wherever resident, under the age of 28; and one to men and women of American birth, wherever resident, under the age of 28.
2. The Essays shall be not less than 100 type-written quarto pages.
3. They must be sent in on or before 1st January, 1934, addressed to the Director of Studies, the British Institute of Philosophy, University Hall, 14 Gordon Square, London, W.C.1, with addressed stamped envelope enclosed for their return to the writers.
4. The prizes shall be assigned only on condition of the attainment of a certain standard by the selected Essays.
5. The selection shall be made by the Academic Committee of the British Institute of Philosophy.

MIND ASSOCIATION.

THE Annual General Meeting of the Mind Association was held in the University of Reading on Friday, 8th July, prior to the Joint Session with the Aristotelian Society. The Chair was taken by the President, Prof. de Burgh. An invitation to hold the Joint Session next year at Birmingham was reported, and was cordially accepted, subject to the agreement of the Aristotelian Society. The date was left to be settled by the Officers in due course, but a preference for 7th to 10th July was expressed by the meeting. The A.G.M. will be held as usual prior to the opening of the Session.

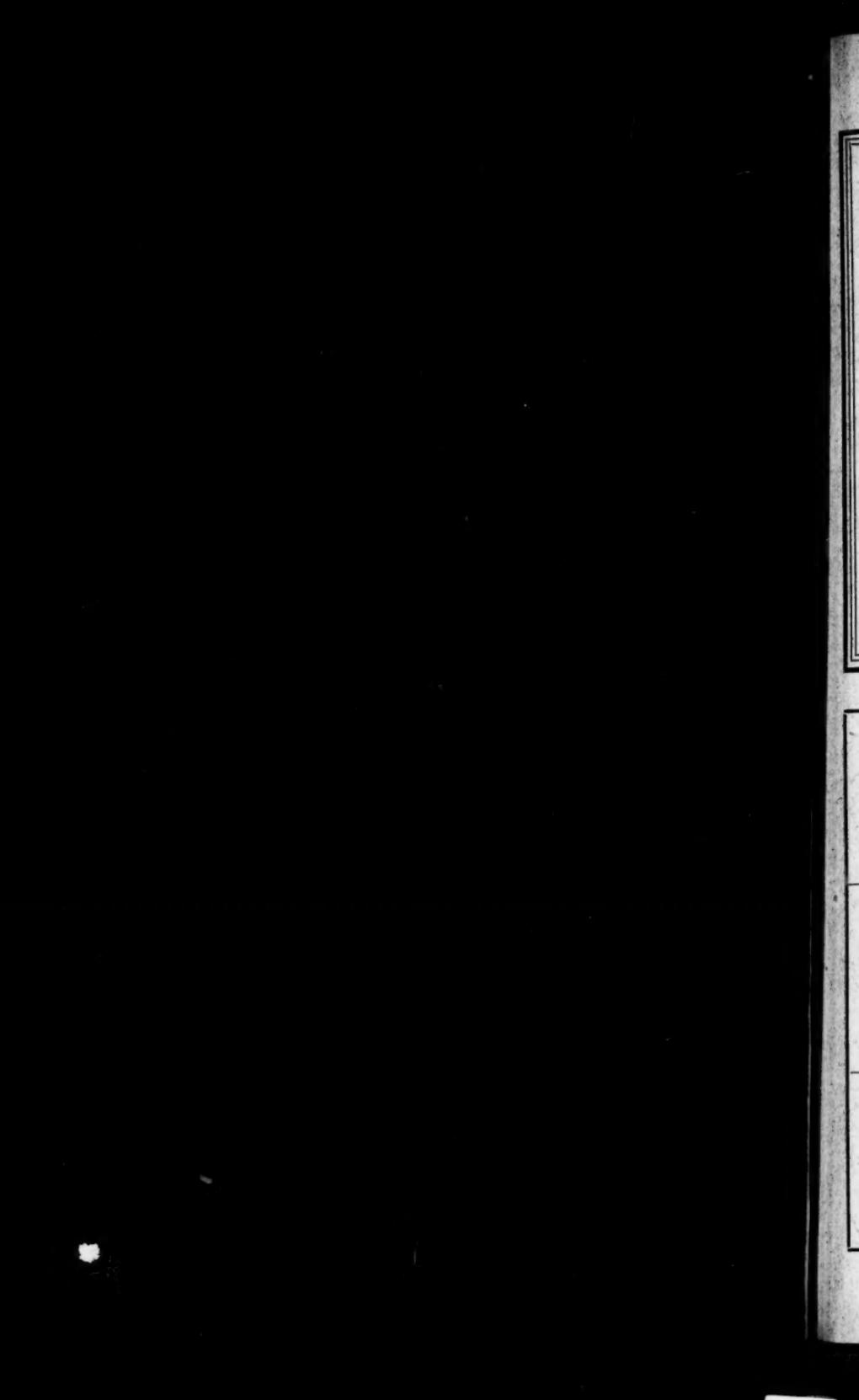
Prof. L. J. Russell was unanimously elected President of the Association for 1933, and Prof. de Burgh was added to the list of Vice-Presidents. Dr. Schiller was re-elected Treasurer for the normal term of three years.

There was some discussion about the amount of the Composition Fee for Life Membership, but the feeling of the meeting seemed to be that it should remain at its present figure (£12). No formal motion was proposed.

At a meeting of the Executive Committee, held just before the General Meeting, the Editor and Secretary were re-appointed for the normal period of three years.

AN APPEAL.

Two volumes of Meinong's collected ethical papers have already appeared, but the publishers are unable to issue Vol. III., which will complete the collection, without financial help. The sum required is about £150. Any readers of MIND who are willing to contribute are requested to communicate with B. Russell, Carn Voel, Porthcurno, Penzance.



George Allen & Unwin Ltd

Life in Nature

By JAMES HINTON. Introduction by HAVELOCK ELLIS.

"As fresh to-day as when it was written: no better time could have been found for its re-issue."—*Everyman*.

10s. 6d.

The Unconscious in Life and Art

By S. HERBERT, M.D., M.R.C.S., L.R.C.P.

"The essays . . . embody the views of a psycho-analyst upon some of the main concerns of life. Are ably and ingeniously written . . . will probably be successful in stimulating controversy."—*Manchester Guardian*.

6s.

MACMILLAN

THE BUDDHA AND THE CHRIST

An Enquiry into the Meaning of the Universe and the Purpose of Human Life.

Bampton Lectures 1932 by CANON B. H. STREETER, F.B.A., Dean Ireland Professor of Exegesis of Holy Scripture in the University of Oxford.

About 7s. 6d. net.

WHITEHEAD'S PHILOSOPHY OF ORGANISM

By DOROTHY M. EMMET, late Research Fellow of Somerville College, Oxford.

8s. 6d. net.

"Miss Emmet in this wholly excellent book has attempted—and in a large measure succeeded—in doing what she set out to do, that is, showing how Whitehead's philosophy 'strikes a student who comes to it from a background of literary instead of scientific philosophy.'"—C. E. M. Joad in *The Spectator*.

EARLY BELIEFS AND THEIR SOCIAL INFLUENCE

By PROF. E. WESTERMARCK, PH.D., late Martin White Professor of Sociology in the University of London, author of "History of Human Marriage," etc.

7s. 6d. net.

MACMILLAN & CO. LTD. LONDON W.C. 2

KEGAN PAUL

ANNOUNCE THE FOLLOWING NEW VOLUMES IN

THE INTERNATIONAL LIBRARY OF PSYCHOLOGY

Edited by C. K. OGDEN

THE MORAL JUDGMENT OF THE CHILD

By Professor J. PIAGET.

12s. 6d. net

An investigation of children's ideas about behaviour, their conceptions of right and wrong, of justice, punishment, and fairplay. This book should supply a firm scientific foundation for all progressive movements in education.

THE GESTALT THEORY

By BRUNO PETERMANN. Illustrated.

15s. net

Dr. Petermann reviews the theoretical enunciations and the experimental researches of Köhler, Wertheimer, Koffka, and their colleagues.

THE PSYCHOLOGY OF ANIMALS

By Professor F. ALVERDES.

9s. net

The author takes the view that animal behaviour can be interpreted by human beings. He shows the necessity for a study of the reactions of the organism as a whole, of its power to co-ordinate all its activities.

THE SPIRIT OF LANGUAGE

By K. VOSSLER.

12s. 6d. net

An examination of the part played by languages in religion, poetry, and science, which gives a vivid picture of the struggle between the "inner language form," created by the inner experiences and sentiments of each individual and race, and the "outer language form" in which universal concepts are expressed.

68-74 CARTER LANE, LONDON, E.C.4

Y

t
r
s
c

t
e